

Working Paper: Correcting miscoded male Textile Workers, Miners and Agricultural Labourers living in London in 1911 I-CeM.

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Introduction

The Integrated Census Microdata (I-CeM) project has produced an integrated, standardised electronic dataset of the England and Wales censuses for the period 1851 to 1911.² It has therefore become an essential source for historical demographers, unlocking opportunities for both individual-level and aggregate-level analysis, at a speed and scale not previously possible. In particular, I-CeM allows manipulation of the original records, allowing people and areas to be aggregated and analysed in ways that best suit each research project.³ It also bypasses the time-consuming task of manually transcribing data from the Census Enumerator Books (CEBs); a process which previously limited the geographical scope of historical demographic studies.⁴ It is perhaps unsurprising then, that I-CeM has been integral to doctoral work on the decline of childhood mortality in London (c. 1870-1929).

Due to the vast scale of the I-CeM project, there have, however, been plentiful data issues. These issues have stemmed from the original CEBs, but also from the inaccuracies of transcription and automated coding of said CEBs. Of interest to this particular working paper, were the Occupational Codes (known as OCCODEs) and thus social classes assigned to individuals present in 1911 London.⁵ OCCODEs were automatically coded based on the transcription of the Occupational Strings recorded in the CEBs. The immense number of unique occupational strings

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² The I-CeM project can be found here: K. Schürer, E. Higgs, A.M. Reid and E.M. Garrett. (2016). *Integrated Census Microdata, 1851–1911, Version 2 (I-CeM.2)* [data collection], UK Data Service, SN: 7481, <https://doi.org/10.5255/UKDA-SN-7481-1>. A user guide and manual for the data is available at: E. Higgs, C. Jones, K. Schürer, and A. Wilkinson. (2015). *The Integrated Census Microdata (I-CeM) Guide, Version 2*. Colchester: University of Essex.

³ A recent example of its use to create a new urban classification using the 1891 census is: H. Smith, R.J. Bennett, D. and Radicic. (2018). ‘Towns in Victorian England and Wales: a new classification’, *Urban History*, 45(4): pp. 568-594. I-CeM has also been visualised in the online atlas Populations Past: A.M. Reid, S.J. Arulanantham, J.D. Day, E.M. Garrett, H. Jaadla, H., and M. Lucas-Smith. (2018). *Populations past: Atlas of Victorian and Edwardian population*. Available at: <https://www.populationspast.org/>. [Accessed on 19th March 2021]

⁴ For two classic examples of studies that manually transcribed CEBs see: M. Anderson. (1971). *Family Structure in Nineteenth-Century Lancashire*. Cambridge: Cambridge University Press; A. Armstrong. (1974). *Stability and Change in an English County Town: A Social Study of York, 1801–51*. Cambridge: Cambridge University Press.

⁵ The OCCODE “gives the class, order and sub-order in which occupations in these groupings can be found in each of the published Census Reports for England, Wales and Scotland”, Higgs *et al.*, ‘I-CeM Guide’, p. 163.

created a complex situation for coding them. Although effort was made to ensure that common occupational strings were correctly coded, there were too few resources in the I-CeM project to tidy the more infrequent strings which received little or no checking. Ambiguous or truncated strings, spelling mistakes, mis-transcribed letters and words with multiple meanings, amongst other issues, all added to this complexity.⁶ The problem was amplified by the need for automated coding due to the sheer volume of people in the database and thus subtle clues and contextual information could not be used on an individual basis to verify the accuracy of the OCCODEs chosen. As a consequence of these factors, there was huge potential for miscoding. This miscoding potential was then extended to the Social Class variable which was derived from the OCCODEs. Indeed, it was the miscoding of social class that alerted me to the issues present in 1911 I-CeM for London; notably the presence of people in the three industrial classes in the capital – Textile Workers, Miners and Agricultural Labourers – where they were not expected.

Much work has been undertaken to improve I-CeM since its conception, including the production of I-CeM Version 2 and additional advancements on the occupation variables by the British Business Census of Entrepreneurs project (BBCE).⁷ Higgs *et al.* have estimated that at least 95% of OCCODEs are ‘correct’ for individuals with a designated occupation title. However, limited extra work has been invested into OCCODEs specifically and thus, there is still much more to be done.⁸

This working paper provides the basis for further improvement of the OCCODE and Social Class variables using a sub-population of married men in 1911 London. Through a combination of contextual knowledge, Occupational Strings and Hollerith Occupation Codes (codes used at the time of the 1911 census by the Registrar-General Office), the social classification system has been refined to only include five hierarchal social classes. These five hierarchal social classes are equivalent to the classes developed by the Registrar-General in 1913, and the refinement therefore meant that all men in the three industrial classes needed to be investigated and recoded.⁹ The recoding undertaken here is likely to be applicable to previous censuses and other urban localities in England and Wales, improving the accuracy of I-CeM coding. Additionally, this work highlights

⁶ Higgs *et al.*, ‘I-CeM Guide’, p.163.

⁷ Note that I-CeM Version 2 did not include improvements on the OCCODE variable. The BBCE project did include some improvements, but mainly for employers. Schürer *et al.*, I-CeM v.2; R.J. Bennett, C. van Lieshout, H. Smith, P. Montebruno and M. Lucas-Smith. (2020). *BBCE website - The British Business Census of Entrepreneurs*. Available at: <https://www.bbce.uk/>. [Accessed on 19th March 2021].

⁸ Higgs *et al.*, ‘I-CeM Guide’, p. 163.

⁹ I. Reid. (1977). *Social Class Differences in Britain. A Sourcebook*, Cambridge: Open Books. See p. 34.

the potential of a greater use of the Hollerith Occupation Codes available for the 1911 census. This potential is twofold: first for checking the accuracy of the 1911 OCCODEs, and secondly for producing a training data set of accurate occupational coding which would then be applied to other census years through a machine learning approach. Overall, this would result in considerable enhancement of the occupational and social class coding across I-CeM.

Background

The 1911 census of England and Wales included a series of questions designed to gather information on the ‘fertility of marriage’, thereby providing a rich data source for analysing married couples’ fertility and early-age mortality experiences in the early twentieth century.¹⁰ Before the birth of I-CeM, these questions were utilised effectively in Garrett *et al.*’s book investigating family sizes in England and Wales, but only for 13 localities.¹¹ Others had also analysed the published reports of the 1911 ‘Fertility Census’, yet these studies were limited by the ways in which the data was aggregated at the time of publication.¹² The I-CeM project has therefore provided the opportunity to analyse this data for all localities in England and Wales, and in a plethora of ways. A recent example of this is Reid and her colleagues exploiting this data in their work on adapting the ‘Own Children Method’ when comparing fertility between populations.¹³ It is the answers to these fertility questions that has also formed the basis of a quantitative analysis into married couple’s child mortality experiences within this doctoral work.

The most distal determinant on mortality – yet arguably of overarching importance – is social class or socio-economic status.¹⁴ Link and Phelan argued for a ‘Theory of Fundamental Causes’ when

¹⁰ Questions were specific to the present marriage and included: the number of completed years the marriage had lasted; total number of children born alive; number of children still living and number of children who had died. For a figure showing how these questions were presented in the census schedule, see E.M. Garrett, A.M. Reid, K. Schürer and S. Szreter. (2001). *Changing Family Size in England and Wales. Place, Class and Demography, 1891-1911*. Cambridge: Cambridge University Press. See p. 6.

¹¹ Garrett *et al.* *Changing Family Size*.

¹² For three examples of such work focusing on fertility, infant mortality and social class, see: M. Anderson. (1998). ‘Fertility Decline in Scotland, England and Wales, and Ireland: Comparisons from the 1911 Census of Fertility’, *Population Studies*, 52(1): pp. 1-20; M.R. Haines. (1989). ‘Social Class Differentials During Fertility Decline: England and Wales Revisited’, *Population Studies*, 43(2): pp. 305-323; P.A. Watterson. (1988). ‘Infant Mortality by Father’s Occupation From the 1911 Census of England and Wales’, *Demography*, 25(2): pp. 289-306.

¹³ A. Reid, H. Jaadla, E. Garrett and K. Schürer. (2020). ‘Adapting the Own Children Method to allow comparison of fertility between populations with different marriage regimes’, *Population Studies*, 74(2): pp. 197-218.

¹⁴ Social class is typically defined by occupation, whereas socio-economic status can be defined in a number of ways, usually based on assets and wealth. Social class and socio-economic status are therefore inherently linked with differing levels of socio-economic status often being found within each social class. Due to the historical nature of this working paper, social class has been solely used. For a broader discussion of the influence on mortality of socio-economic status within social class see: S. G. Wannamethee and A.G. Shaper.

considering social-economic status and disease.¹⁵ As socio-economic status embodies access to important resources; it will affect multiple disease outcomes through multiple mechanisms and continue to be associated with the disease outcomes even if the mechanisms change. Thus, socio-economic status – and thereby social class – can be considered the root of disease and mortality patterns. The negative social gradient for overall mortality has also been reflected in infant and early childhood mortality patterns for at least a century¹⁶ and Marmot *et al.* have recently shown that this mortality gap is not converging.¹⁷ However, Garrett *et al.* found that this association in England and Wales was not necessarily straightforward and was, in fact, the product of the covariance of social class with other characteristics, notably place.¹⁸ The social class of a family is, for example, closely associated to the sanitary environment they are living in. Place-based influences such as this, may be more influential on health and mortality than individual characteristics, such as income and knowledge. Indeed, Woods warns that the influence of social class “will be confounded by what may prove to be the more direct effect of the local environment”¹⁹ and others stress the importance of the place or the environment over – or in combination with – social class.²⁰

In an investigation into married couples’ child mortality, it was therefore imperative to control for the social class of each married couple. Although this may appear simple, there has been – and still is – much debate over the most suitable classification of social classes in historical England and Wales, particularly given the lack of salary reporting. The Registrar-General’s system, developed in 1913, provides the basis of most social classifications used when investigating historical Britain.²¹ The classification system was devised by Dr T.H.C. Stevenson – a medical statistician – with the

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- (1997). ‘Socioeconomic Status within Social Class and Mortality: A Prospective Study in Middle-Aged British Men’, *International Journal of Epidemiology*, 26(3): pp. 532-541.
- ¹⁵ B. Link and J. Phelan. (1995). ‘Social Conditions As Fundamental Causes of Disease.’, *Journal of Health and Social Behaviour*, 35(Extra Issue): pp. 80–94.
- ¹⁶ See, for example: S.H. Preston and M.R. Haines. (1991). *Fatal Years: Child Mortality in Late Nineteenth-Century America*. Princeton, New Jersey: Princeton University Press; R.M. Titmuss. (1943). *Birth, Poverty and Wealth. A Study of Infant Mortality*. London: Hamish-Hamilton Medical Books; Woods, R. (2000). *The Demography of Victorian England and Wales*. Cambridge: Cambridge University Press.
- ¹⁷ M. Marmot, J. Allen, T. Boyce, P. Goldblatt and J. Morrison. (2020). *Health equity in England: The Marmot Review 10 years on*. London: Institute of Health Equity. For data on infant mortality see p. 37.
- ¹⁸ Garrett *et al.* *Changing Family Size*.
- ¹⁹ Woods, *The Demography of Victorian*, p. 263.
- ²⁰ See, for example: L. Marks. (1996). *Metropolitan Maternity: Maternal and Infant Welfare Services in Early Twentieth Century London*. Amsterdam: Rodopi; A. Reid. (1997). ‘Locality or Class? Spatial and Social Differentials in Infant and Child Mortality in England and Wales, 1895-1911’, in C.A. Corsini and P.P. Viazzo (eds) *The Decline of Infant and Child Mortality. The European Experience: 1750-1990*. The Hague, Netherlands: Kluwer Law International. pp. 129–154; P.A. Watterson. (1986). ‘Role of the environment in the decline of infant mortality: an analysis of the 1911 Census of England and Wales’, *Journal of Biosocial Science*, 18(4): pp. 457–470; Watterson, *Infant Mortality by Father’s Occupation*.
- ²¹ Reid, *Social Class Differences in Britain*, p. 34.

intention of investigating marital fertility patterns across social classes using the 1911 Fertility Census.²² It uses the hierarchal structure of occupations to place families into social classes according to the occupation of the household head, typically the husband. These social classes consist of five hierarchal classes, plus three industrial classes which were considered demographically different enough to have their own categories. They are defined as follows:²³

- Class I – Upper & middle
- Class II – Lower white collar
- Class III – Skilled manual
- Class IV – Semi-skilled manual
- Class V – Unskilled manual
- Class VI – Textile workers
- Class VII – Miners
- Class VIII – Agricultural labourers

This classification system has definitely not been without criticism. Notably, Szreter argues that these categories are an oversimplification of the social classes of England and Wales, wrongly assuming that the hierarchy of occupations “exists throughout society in essentially the same form regardless of locality or community”.²⁴ Furthermore, Armstrong describes the system as placing occupations into social classes only in a “rough and ready way” and that it is therefore a system that should thus be refined.²⁵ There are also general issues with the census as a source of occupational information. For example, often generic descriptors - such as ‘labourer’ - were recorded as occupations, rather than specifying the industry in which the person worked.²⁶ Status indicators like ‘foreman’ or ‘master’ were also inconsistently recorded. Moreover, part-time, seasonal or casual labour went under-recorded. This was particularly an issue for women and

²² The inquiry into marital fertility was rooted in the political and eugenicist concern that the poorer classes were having more children than those in higher classes, and were therefore contributing to the genetic decline of the British ‘race’. See: E. Higgs. (2004). *Life, death and statistics: civil registration, censuses and the work of the General Register Office, 1836-1952*, Hatfield, Hertfordshire: Local Population Studies Supplement. pp.129-55; S.R.S. Szreter. (1984). ‘The Genesis of the Registrar-General’s Social Classification of Occupations’, *The British Journal of Sociology*, 35(4): pp. 522-546.

²³ The classes are defined in: Census of England and Wales, 1911. Vol. XIII. (1923). *Fertility of marriage, Part II*. (1923), London: HMSO. pp. lxxvi-lxxvii. The titles for Classes II and IV are taken from Garrett *et al.* (see p. 79) as they were not given a precise title in the census.

²⁴ Szreter, ‘The Genesis of’, p.538.

²⁵ W. A. Armstrong. (1972). ‘The use of information about occupation’ in E. A. Wrigley (eds) *Nineteenth Century Society: Essays in the Use of Quantitative Methods for the Study of Social Data*. Cambridge: Cambridge University Press. pp. 191-210.

²⁶ Smith *et al.* ‘Towns in Victorian England’, p.580.

children, as well as those that worked in agriculture or, in the context of London, those that worked as dock labourers.²⁷

As a consequence of these issues, there have been many attempts to modify this classification system or create a new system entirely. Modifications include using the Registrar-General's five social class groups from 1951, and other amalgamations of the original social classes, such as in Jaadla and Reid's work on child mortality.²⁸ Alternative classification systems that have been developed to enable international comparisons include the Historical International Standard Classification of Occupations (HISCO) and Primary, Secondary, Tertiary International (PSTI).²⁹

Despite the alternatives, the Registrar-General's original social classes are still often used for historical studies of England and Wales. The benefit of continuity when using these classifications should not be overlooked, nor should the fact that this system has been shown to give the patterns of mortality and fertility that one would expect when comparing social classes.³⁰ As Smith *et al.* state, the census is not perfect, but it “offers the most accurate large-scale data on the occupational structure of communities” for nineteenth and twentieth century England and Wales.³¹ In this research, therefore, the Registrar-General's social classification system has been used. This classification was achieved through two variables attached to husbands in I-CeM: OCCCODE and Social Class. The Occupational String was used to automatically code each husband into an OCCCODE, which then placed him, and his family, into a social class. It was families coded in the industrial classes (Classes VI, VII and VIII) that raised concern over the accuracy of the coding in the context of this research. This will be explained thoroughly in the next section.

²⁷ G. Stedman Jones. (1971). *Outcast London: A Study in the Relationship between Classes in Victorian Society*. Oxford: Oxford University Press.

²⁸ The 1951 Registrar-General's social class groups are described as “(I) higher administrative and professional; (II) other administrative, professional and managerial; proprietors; (III) clerks, shop assistants, personal service, foremen, skilled workers; (IV) semi-skilled workers; and (V) unskilled workers” in Haines, ‘Social Class Differentials’, p. 313. An example of amalgamating the earlier Registrar-General's classification system can be found in: H. Jaadla and A.M. Reid. (2017). ‘The geography of early childhood mortality in England and Wales, 1881-1911’, *Demographic Research*, 37(1): pp. 1861-90.

²⁹ For a summary of HISCO see: M.H.D. van Leeuwen, I. Mass and A. Miles. (2004). ‘Creating a Historical International Standard Classification of Occupations. An Exercise in Multinational Interdisciplinary Cooperation’, *Historical Methods*, 37(4): pp. 186-197. For a summary of PSTI see: E.A. Wrigley and R. Davies. (2010). *Occupational coding – the PST System*. Available at: <https://www.campop.geog.cam.ac.uk/research/occupations/datasets/coding/>. [Accessed on 19th March 2021].

³⁰ This was noted at the time in: T.H.C. Stevenson. (1920). ‘The Fertility of Various Social Classes in England and Wales 1850-1911’, *Journal of the Royal Statistical Society*, LXXXIII: pp. 401-44. See p.408. For a more recent comment on this, see: Haines, ‘Social Class Differentials’, p. 313.

³¹ Smith *et al.* ‘Towns in Victorian England’, p. 581.

Data & Cause for Concern

Due to the nature of the wider research project (analysing married couples' child mortality experiences in 1911 London), the population used in this working paper was subject to a number of inclusion criteria. The analysis looked to calculate a summary measure of child mortality for married couples, named the Mortality Index. The Mortality Index is defined as the ratio of actual deaths to expected deaths for married women, adjusted according to marriage duration categories. The method is based on indirect estimation techniques developed by Brass in 1975, where he concluded that the ratio of actual deaths to expected deaths to women married under 15 years roughly corresponds to the under-5 mortality rate.³² This method is well-established and has been used in a number of historical demography studies, including Connor's work on Dublin, Garrett *et al.*'s extensive analysis of 13 places in England and Wales, and in Preston and Haines' comparative work on England and Wales and the USA, amongst others.³³

In order to complete the calculation of Mortality Indexes and consequent analyses, as well as ensuring that the data was as complete and accurate as possible, the following couple inclusion criteria was used: each couple was married for less than 15 years; the wife's age at marriage was between 10 and 40; the number of children born did not exceed two more than the years they'd been married, but they had at least one child; no missing data, and neither of the couple were institutional inmates.

After these inclusion criteria were taken into account, the sub-population included 278,361 married couples living in London. Figure 1 and associated Table 1 show the number of married couples in each of the Registrar-General's Social Classes, based on husband's occupation from 1911 I-CeM.

³² W. Brass. (1975). *Methods for Estimating Fertility and Mortality from Limited and Defective Data*. Chapel Hill: Laboratories for Population Statistics Occasional Publication.

³³ D. Connor. (2017). 'Poverty, Religious Differences, and Child Mortality in the Early Twentieth Century: The Case of Dublin', *Annals of the American Association of Geographers*, 107(3): pp. 626-46; Garrett *et al.* *Changing Family Size*; S. Preston and M. Haines. (1991). *Fatal Years: Child Mortality in Late Nineteenth-Century America*. Princeton: Princeton University Press. See pp. 179-80.

Figure 1 - *The number of married couples in the London sub-population in each of the Registrar-General's Social Classes, based on husband occupation from 1911 I-CeM.*

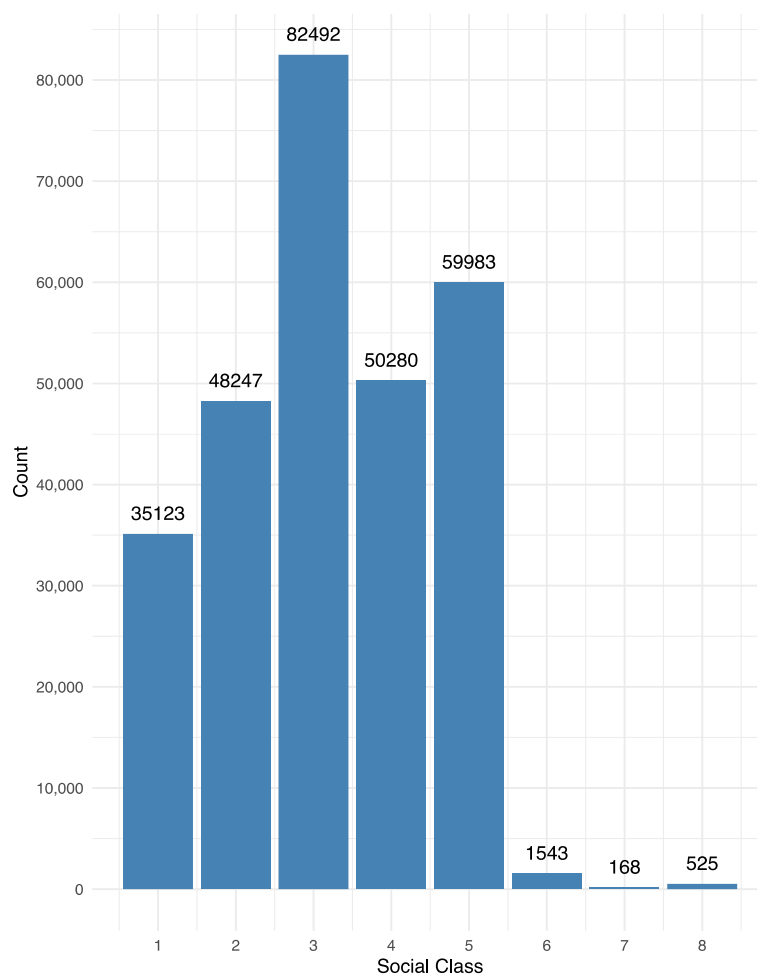


Table 1 - *The number and percentage of married couples in the London sub-population in each of the Registrar-General's Social Classes, based on husband occupation from 1911 I-CeM.*

Social Class	Frequency	Percentage
I	35,123	12.46
II	48,247	17.11
III	82,492	29.25
IV	50,280	17.83
V	59,983	21.27
VI	1,543	0.55
VII	168	0.06
VIII	525	0.19
Total	278,361	100.00

There were a considerable number of couples that fell into the hierarchal social classes I to V. However, here we can also see a smaller number of couples that were coded into social classes VI (Textile workers), VII (Miners) and VIII (Agricultural labourers), according to their OCCODEs. This is not a pattern we would not expect to see in the city.

In 1911, the London economy was concentrated on consumption and retailing rather than production and manufacture.³⁴ The occupational structure of London therefore reflected this, being prominently made up of secondary sector and tertiary sector workers, with few primary sector workers.³⁵ Classes VII and VIII refer to primary sector jobs in mining and quarrying, and to agricultural labourers. Whilst these were important industries in England and Wales at the start of the twentieth century, their presence should have been close to null in the capital, due to the urban nature of London and the geographic distance to mining areas. The social class coding of a number of the sub-population as miners and agricultural workers therefore needed further investigation.

Additionally, the presence of a small, but not insignificant, number of textile workers (Class VI) raised some concern. Historically, there were three regional textile centres in England: the West Country, East Anglia and West Yorkshire. However, by the early nineteenth century, approximately two thirds of men employed in the textile industry lived in Lancashire and the West Riding of Yorkshire alone.³⁶ London was thus not a prominent part of the textile and clothing manufacture picture. Saying this, it did have its place in the silk-making and dying industry, notably in Shoreditch, Spitalfields and Bethnal Green.³⁷ Yet, Ball and Sunderland described how the silk competition from both domestic and abroad caused a steep decline in this industry – leading to only 0.02 per cent of the male workforce in 1911 being involved in silk-making (compared to an estimated 0.5 per cent in 1711).³⁸ In the context of this work in 1911 London, therefore, it was important to investigate the occupational coding associated with this social class too.

³⁴ R. Dennis. (2000). 'Modern London', in M. Daunton, (eds) *The Cambridge Urban History of Britain, volume III 1840- 1950*. Cambridge: Cambridge University Press. pp. 95-131. See p. 125.

³⁵ J.F. Field and L. Shaw-Taylor. (2019). *The male occupational structure of London 1700-1881: A complex picture of London's development*. Working Paper 31 in the The Occupational Structure of Britain c.1379-1911 series. Available at: <https://www.campop.geog.cam.ac.uk/research/occupations/outputs/preliminary/>. [Accessed on 19th March 2021].

³⁶ K. Sugden. (2016). 'The Location of the Textile Industry in England and Wales, 1813–1820', *Textile History*, 47(2): pp. 208–26. See p. 208.

³⁷ Sugden, 'The Location of the Textile Industry', p. 219.

³⁸ M. Ball and D. Sunderland. (2001). *An Economic History of London, 1800-1914*. London: Routledge. See pp. 308-9.

Method

Across social classes VI, VII and VIII, there were a total of 2,236 couples that required investigation. The variables of interest in the I-CeM database were as follows:

1. *Occupational String* – “This variable provides the profession or occupation of the individual, as transcribed from the enumeration book or schedule.”³⁹
2. *Occupation code (OCCODE)* – “This variable provides a numeric code for occupational groupings in the I-CeM Occupational Matrix.”⁴⁰ Note that these codes were allocated using the occupational strings in the database. As there was such a vast number of unique occupational strings, the majority of these were coded automatically. This therefore leads to a margin of error due to mis-coding, incompleteness or the ambiguity of the occupation string. It is estimated that the OCCODE is correct for at least 95% of individuals with an occupational string.⁴¹
3. *Social Class* – The variable allocates a person’s social class, according to the Registrar-General’s system (classes I to VIII), using the OCCODE. Note that if there was an issue with the OCCODE, then this variable is also affected.
4. *Hollerith Occupation Code* – “This variable provides the 1911 Registrar-General code for occupations, as transcribed from the schedule. Occupation codes were assigned by clerks of the Registrar-General Office and marked on the schedule in preparation for keying Hollerith punch cards for tabulation purposes.”⁴²

The aim of the investigation into the sub-population of interest (those couples that were coded as social classes VI, VII and VIII) was to check the accuracy of their automatically created OCCODE, and ultimately recode them into the five hierarchal social classes. The recoding was to increase the accuracy of OCCODE and Social Class data in 1911 London, and to ensure a better analysis of couples’ mortality experiences in further work. There were no straightforward and generalised rules that could have been used to recode the three industrial social classes into the other five hierarchal classes, and thus a detailed investigation of each case was necessary.

³⁹ Higgs *et al.*, ‘I-CeM Guide’, p. 150.

⁴⁰ Higgs *et al.*, ‘I-CeM Guide’, p. 163.

⁴¹ Higgs *et al.*, ‘I-CeM Guide’, p. 163.

⁴² Note that these were only used for the 1911 census and are therefore only available in I-CeM for the 1911 census. Higgs *et al.*, ‘I-CeM Guide’, p. 151.

The method of investigation involved looking back at the ‘Occupational String’ and ‘Hollerith Occupation Code’ variables – as entered at the time of the 1911 census – to then make a judgement on whether the OCCODE and Social Class variables were accurate. There were many discrepancies found that could be easily fixed, and these findings may be applicable to earlier census years and other urban locations in England and Wales. The Hollerith Occupation Code – a variable that has previously been under-utilised – also proved to be an incredibly useful tool for checking the accuracy of the original OCCODEs.

Results

Using the ‘Occupational String’ and ‘Hollerith Occupation Code’ in combination has proved to be a useful method for checking the accuracy of the OCCODE and Social Class variables in 1911 I-CeM. Additionally, all the men coded as Textile Workers, Miners and Agricultural Labourers have been recoded and could therefore be moved to a hierarchal Social Class accordingly.⁴³ Each industrial social class will now be discussed in turn, followed by an overall discussion. Tabulations of all the recoding undertaken can be found in the Appendices.

Agricultural Labourers – Class VIII

Within the sub-population of interest, 525 men were placed in the Agricultural Labourers social class. Of these, all were coded with one of the following OCCODEs:

- 179 - ‘AGRICULTURAL LABOURER, FARM SERVANT--DISTINGUISHED AS IN CHARGE OF CATTLE’
- 180 - ‘AGRICULTURAL LABOURER, FARM SERVANT--DISTINGUISHED AS IN CHARGE OF HORSES’
- 181 - ‘AGRICULTURAL LABOURER, FARM SERVANT--NOT OTHERWISE DISTINGUISHED’⁴⁴

The majority of issues within this social class lay in miscoding and ambiguous occupational strings. A key example of this would be the 286 men placed in Class VIII with occupational strings that included the words ‘Dairy’, ‘Milk’ and ‘Cow’. On closer inspection, it became clear that these men were involved in the dairy trade, in some capacity – with entries such as ‘Milkman’, ‘Dairy Manager,’

⁴³ The majority of recoding involved correcting miscodes. However, there were a few men who may have been coded correctly originally that were recoded into generic occupations with the same skill-level, but placed them into social classes I-V. These cases are flagged in the Appendices.

⁴⁴ OCCODE definitions taken from: Higgs *et al.*, ‘I-CeM Guide’, p. 168.

‘Cowman’ etcetera – yet the majority were not involved in the agricultural labourer sense. The Hollerith occupation codes amongst these men confirmed this, and placed them in the category ‘Milk sellers, Dairymen’ (916). All these men were therefore recoded into OCCODE 677 (‘COWKEEPERS, MILKSELLERS’) which was considered Social Class II.

Another important recoding for the men previously classified as Agricultural Labourers was to OCCODE 765 (‘GENERAL LABOURERS’) in Social Class V. Some 107 men were recoded in this way. A number of these had occupational strings such as ‘Handyman on Estate’, ‘Labourer on Buildings’ and ‘General labourer [sic]’, with Hollerith occupation codes to match. However, it is also important to note that 89 of these men had Hollerith occupation codes specifically associated to farm work: ‘Agricultural Labourers, Farm Servants (Distinguished As In Charge Of Cattle)’ and ‘Agricultural Labourers, Farm Servants (Not Otherwise Distinguished)’ (120 and 140). The occupational strings reflected these categories: for example, ‘General Farm Labour’ and ‘Farm Labourer’. In this situation therefore, the automated OCCODE and placement in Social Class VIII was not unreasonable. It is hypothesised that these may have been seasonal farm workers out of work at the time of the census, as there was lower need for agricultural labour in April.⁴⁵ Saying this, it was deemed equally appropriate to recode these men as OCCODE 765 (‘GENERAL LABOURERS’) due to their presence in London, and thus the likelihood of them engaging with casual, unskilled work.

The third largest recoding group for this group of men, was into OCCODE 141 (‘CARMEN CARRIERS CARTERS AND DRAYMEN’) which was also in Social Class V. 32 men had words such as ‘Carriers’, ‘Carter’, ‘Carman’ and ‘Waggoner’ in their occupational string. Their Hollerith occupation codes either reflected this directly, placing them in the ‘Others Connected With Carrying Or Cartage’ (526) category, or within a farm-related category. Due to the presence of these men in the city London on census night, it was deemed appropriate to recode all these men into the generic carmen OCCODE.

The remaining 95 men that were allocated Social Class VIII were recoded into a variety of different occupations, and therefore different Social Classes. These ranged from ‘RAILWAY GUARD’ (128) to ‘BRICKLAYER’ (412) to ‘MUSICIAN, MUSIC MASTER, SINGER (NOT

⁴⁵ Note that the census asked for people to report an occupation even if temporarily out of work. See: P. Montebruno, R. Bennett, C. van Lieshout, H. Smith and A. Satchell. (2019). ‘Shifts in agrarian entrepreneurship in mid-Victorian England and Wales’, *The Agricultural History Review*, 67(1): pp. 71-108. See p. 79.

TEACHERS)’ (128). A full list of the original and recoded OCCODEs, can be found in Appendix A. The number of men recoded to each of the five hierarchal Social Classes can be found in Table 2.

Table 2 - *The number of men in the London sub-population recoded from the Agricultural Labourers Social Class to each of the five hierarchal social classes.*

Recoded Social Class	Frequency
I	5
II	312
III	25
IV	27
V	156
Total	525

Miners – Class VII

Social Class VII (Miners) made up the smallest proportion of the sub-population, with only 168 men falling into this category. Due to their presence in London on the census night, and the lack of mines in the capital, we can be relatively certain that these men were miscoded into occupations that placed them into Social Class VII. These men were spread over twelve mining OCCODEs, ranging from 196 to 212:

- 196 – ‘COAL MINERS - HEWERS, WORKERS AT THE COAL FACE’
- 198 – ‘COAL MINERS - OTHERS BELOW GROUND & UNDEFINED’
- 199 – ‘RAILWAY LABOURERS NAVVIES (COAL MINE)’
- 200 – ‘COAL MINERS ABOVE GROUND’
- 201 – ‘MINE SERVICE ENGINEERS’
- 203 – ‘MINE SERVICE OTHERS (COAL)’
- 207 – ‘IRON--MINER, QUARRIER’
- 208 – ‘COPPER MINER’
- 209 – ‘TIN MINER’
- 210 – ‘LEAD MINER’
- 211 – ‘MINERS IN OTHER OR UNDEFINED MINERALS’

- 212 – ‘GOLD MINER’⁴⁶

Perhaps understandably, men with the word ‘COAL’ in their occupation strings fell into this category. Such occupation strings included ‘COAL MAN’, ‘COAL WHEELER’ and ‘COAL SORTER’. Rather than working in coal mines, these men were likely to have been coal porters or labourers within the city, and their Hollerith occupation codes confirmed this. It was therefore appropriate to recode the 33 ‘Miners’ to OCCODE 170 (‘COALHEAVER; COAL--PORTER, LABOURER’), placing them in Social Class V.

Similarly, there were a number of men who were automatically coded into occupations associated with the mining of other materials. The presence of the names of these other materials in their occupational strings meant they were wrongly coded into Social Class VII. Their Hollerith occupation codes verified that they instead needed to be placed into manufacturing occupations coinciding with the mined material they were linked to. As a consequence, seven men were moved into OCCODE 246 (‘TINPLATE MANUFACTURE’), three men into OCCODE 248 (‘LEAD MANUFACTURE’), two men into OCCODE 268 (‘COPPERSMITHS (VARIOUS)’), one man into OCCODE 260 (‘BRASS FOUNDERS’) and one man into OCCODE 385 (‘OTHER WORKERS GOLD SILVER JEWELLERY’). The men were thus recoded into Social Classes III or IV, depending on their new OCCODE.

Another key reason for the miscoding of Londoners into Social Class VII was the similarities between names of mining occupations and occupations associated with public transport. This occurred in two main ways. Firstly, 15 men had occupational strings that included the word ‘LAMP’ – this was either in the form ‘LAMP CLEANER’ or ‘LAMP MAN’. This is an occupation that could be associated with the mining industry; however, the Hollerith occupation codes instead link these men to the motor vehicle industry (Hollerith Occupation Code 522: ‘Motor Garage – Proprietors, Workers’).⁴⁷ Consequently, these men were placed into Social Class IV, as was appropriate for OCCODE 137 (‘MOTOR GARAGE ---PROPRIETOR, WORKER’). Secondly, 18 men had occupational strings connected to the London Underground, thus including words such as ‘UNDERGROUND’, ‘TUBE’ and ‘SUBWAY’. Due to the underground nature of mining occupations, as well as the uniqueness of the London Underground as a workplace (and therefore

⁴⁶ OCCODE definitions taken from: Higgs *et al.*, ‘I-CeM Guide’, pp. 168-9.

⁴⁷ For a description of a ‘Lamp Man’ in a coal-mining context see: C. Thompson. (2013). *National Museum of Wales - Colliery checks and tokens*. Available at: <https://museum.wales/articles/2013-01-30/Colliery-checks-and-tokens/>. [Accessed on 19th March 2021].

the niche use of these occupational strings within the 1911 Census), these were miscoded into Social Class VII. The Hollerith occupation codes for these men were ‘Other Railway Servants’ (519) and ‘Navvies; Railway, &C. – Contractors’ (745), confirming their work on the London Underground, rather than the mining industry. All 18 men were placed into OCCODE 134 (‘OTHER RAILWAY SERVANTS’) and therefore recoded into Social Class II.

In a similar vein, a group of another eight men were coded as Miners, despite having the Hollerith Occupation Code ‘Local Authority Drainage And Sanitary Service’ (961). The occupational strings of these men included the words ‘SEWER’, ‘SURFACE’ and – again – ‘UNDERGROUND’. These words could be linked to working in the mining industry, either in the mines or at the mine’s surface. In reality, these men were working within sewage and waste services. The recoding of these men placed them into OCCODE 727 (‘TOWN DRAINAGE’) and into Social Class IV.

A final group of men of particular interest within the Mining Social Class, were four men who were classified as ‘Performers, showmen; exhibition, games - service (exhibitions, games, &c.)’ by the Hollerith Occupation Code system (469). Their occupational strings included the word ‘GROUND’ which could be linked to mining through the automatic coding system. However, these men were actually employed at the ‘CRICKET GROUND’, explaining their Hollerith occupation code. The most appropriate OCCODE for these men was 81 ‘BILLIARDS CRICKET AND OTHER GAMES SERVICE’, placing them in Social Class II.

The remaining 77 men that needed to be investigated were recoded into numerous OCCODEs. A full list of the original and recoded OCCODEs, can be found in Appendix B, and the number of men recoded to each of the five hierarchal Social Classes can be found in Table 3.

Table 3 - *The number of men in the London sub-population recoded from the Miners Social Class to each of the five hierarchal social classes.*

Recoded Social Class	Frequency
I	10
II	26
III	20
IV	41
V	71
Total	168

Textile Workers – Class VI

Class VI – Textile Workers – proved to be the most troublesome industrial social class to recode. This was due to the larger number of men placed in this class (1,543 men compared to only 693 men in Social Classes VII and VIII combined) and therefore the wider range of original OCCODEs to investigate. There were 64 OCCODEs within this group overall, spanning from 548 ('COTTON & COTTON GOODS MANUFACTURE CARD BLOWING ROOM PROCESSES') to 627 ('UNDEFINED TEXTILE FINISHERS'). The size of this investigation was further complicated by the fact that it was plausible for some of the original OCCODEs to be correct, given the presence of the silk and finishing of materials industries in London. These would, however, have been quite distinct from the textile workers of Yorkshire and Lancashire. Additionally, in the context of the wider research project, it was sensible to recode all the men into a hierarchal social class through the allocation of new OCCODEs, in order for them to be comparable to the others in the sub-population.

The first group of 'Textile Workers' to be discussed are those men that were given OCCODEs for non-clothing textiles or materials. This included: sailcloth; sacking; net; mat and hassock; rope; felt; carpet/rugs and waterproof goods. Their OCCODEs predominantly fell between 582 ('JUTE MANUFACTURE (VARIOUS)') and 589 ('TENT MAKER') inclusive, with the addition of 595 ('FELT MANUFACTURE (VARIOUS)') and 596 ('CARPET RUG MANUFACTURE (VARIOUS)'). There were issues, however, in aligning these occupations and their associated Hollerith occupation codes, with relevant OCCODEs. Additionally, it was felt important to keep these occupations distinct from those associated with clothing manufacture. Therefore, the non-clothing 'Textile Workers' were put into one of two OCCODEs: 359 ('SAILMAKERS') and 490 ('WATERPROOF GOODS MAKERS'). The former included some 211 men and covered the majority of the non-clothing textiles and materials. The latter included 39 men that were involved in tent and tarpaulin manufacture. Both of these new OCCODEs placed all 250 men into Social Class IV. It is acknowledged at this point, that this recoding is rather coarse and thus may not be suitable for other studies where a more detailed breakdown of occupations may be needed. In the context of London and recoding within this research however, this was a precise enough solution.

We can now turn to those men with occupations linked to clothing manufacturing. This group included the majority of those in the silk and textile finishing industries. It is worth noting that the number of men in each of these industries was not particularly significant, with a maximum of 79

and 179 men associated with the silk and textile finishing industries, respectively.⁴⁸ Judgements were made using the Occupational Strings and Hollerith Occupation Codes to place all of those associated with clothing manufacturing into a number of different categories. These categories were chosen as they placed them into one of the five hierarchical social classes - rather than under 'Textile Workers' - and differentiated between the different skill-levels found in these types of occupation. The OCCODEs used for the recoding and their associated Social Classes are as follows:

- 653 – 'TAILORS (NOT MERCHANTS) – DEFAULT', Social Class III
- 654 – 'OTHERS CLOTHING MANUFACTURERS', Social Class III
- 659 – 'SHIRTMAKERS AND SEAMSTRESSES', Social Class II
- 770 – 'FACTORY LABOURERS (UNDEFINED)', Social Class V

Those placed in OCCODE 770 and therefore Social Class V, tended to have the words 'PACKER', 'LABOURER' and/or 'WAREHOUSEMAN' in their occupational strings. Their Hollerith occupation codes varied depending on the materials they were working with. In total, this amounted to 220 men. 62 men were recoded as OCCODE 653 ('TAILORS...') in Social Class III and 64 men were recoded as OCCODE 659 ('SHIRTMAKERS...') in Social Class II. The Hollerith occupation codes were particularly helpful in both of these instances, with specific codes for 'Tailors', 'Dressmakers', 'Shirt Makers; Seamstresses', as well as 'Fancy Goods (Textile), &C. Manufacture' (270, 280, 290 and 876 respectively). Those with a Hollerith occupation code for Tailors went into the matching OCCODE, the latter three Hollerith occupation codes were placed into OCCODE 659. In terms of occupational strings, those recoded as Tailors tended to have words such as 'TRIMMER', 'CLOTH MACHINER' and 'EMBROIDERER'. For Shirtmakers/Seamstresses, the words 'CUTTER' and 'DESIGNER' were more prominent, although 'EMBROIDERER' was also common. Some 187 men were recoded into OCCODE 654 ('OTHERS CLOTHING MANUFACTURERS'). This recoding was used to cover the remaining men working in clothing manufacturing. Specifically, these men had the Hollerith occupation codes 'Textile - Calenderers, Finishers, &C.' (844), 'Other Workers In Sundry Fabrics And Undefined' (878) and 'Silk - Weaving Processes' (852), amongst some others. The occupational strings included generic textile processes - for example 'CLOTH WORKER', 'SPINNER',

⁴⁸ 'Maximum' is used here due to the differing ways in which the silk and textile finishing industries can be defined, by using original OCCODEs or the Hollerith Occupation Codes. The numbers given in this paper are the deemed the maximum number of men who could have worked in these industries, although it is unlikely that these numbers were reached.

‘TWISTER’, ‘WEAVER’ and ‘FINISHER’ – explaining their original automatic coding into the Textile Workers Social Class. Their OCCODE recode placed them into Social Class III, which seems a reasonable estimate of their position in the hierarchal class system.

During the investigation, it was discovered that a small number of upholsterers, shoemakers, curriers and furriers had also been given OCCODEs that wrongly placed them into Social Class VI. Using the Hollerith Occupation Codes and Occupational Strings, 17 men were recoded into OCCODE 507 (‘CURRIERS’) and 10 men into OCCODE 505 (‘SKINNERS FURRIERS’), both Social Class IV. 14 additional men were recoded into Social Class III through the OCCODE 663 (‘SHOE AND BOOT MAKERS (AND REPAIRERS)’) and a further 26 through the OCCODE 440 (‘UPHOLSTERER’). The reasons behind these miscodes appear to be quite varied. Some were certainly due to spelling errors, and others due to long, ambiguous occupational strings that led to the automatic transcriptions picking up on certain keywords but not capturing the true occupations.

Another example of words in occupational strings being miscoded would be in the case of ‘DYER AND CLEANER’ or similar. Here, many men were placed into OCCODEs linked to the dyeing and finishing of fabrics. Although about 30 men were indeed related to the dyeing and finishing of fabrics (and therefore recoded into OCCODE 654 as mentioned previously), 100 of them were actually involved in the cleaning of fabrics, which, at this time, also included the dyeing of fabrics. Consequently, the 100 men were recoded to OCCODE 105 (‘LAUNDRY WORKER: WASHER, IRONER, MANGLER, ETC. (NOT DOMESTIC)’) to better reflect their work, placing them in Social Class IV. Despite this being an industry dominated by females, there will have been a small proportion of men with this occupation, particularly in a city as populous as London.⁴⁹

Similarly, it was found that the inclusion of other words such as ‘SILK’, ‘FANCY GOODS’ and ‘CARPET’ had wrongly placed 111 men into textile manufacturing occupations. From their occupational strings it became clear that these 111 men were, in reality, salesmen, agents, merchants, importers and travellers. They were therefore at the retail end of the textile industry, taking them out of Social Class VI. 52 men were recoded into Social Class I through being re-categorised as OCCODE 112 (‘BROKERS, FACTORS, COMMERCIAL AGENTS (NOT - MINE, QUARRY, INSURANCE)’). The remaining 59 men ended up in Social Class II through

⁴⁹ P.E. Malcolmson. (1981). ‘Laundresses and the Laundry Trade in Victorian England’, *Victorian Studies*, 24(4): pp. 439-462.

the OCCODEs 118 ('OFFICERS OF COMMERCIAL AND OTHERS COMPANIES') and 758 ('GENERAL SHOPKEEPERS DEALERS').

There are two remaining detailed examples of repeated automated coding issues within Social Class VI. One of these is the use of a homograph in the occupational strings, and the other is the confusion caused by the word 'SORTER', again in the occupational string. The homograph is 'SEWER'. In the context of these occupations, 'SEWER' refers to "an underground conduit for carrying off drainage water and waste matter", as opposed to "a person that sews".⁵⁰ The latter of these definitions explains the miscoding into Social Class VI. However, the occupational strings confirm that the former definition is correct in this scenario – for example 'SEWER AND FLUSHER' or 'SEWMAN MAN L C COUNCIL' – as does the Hollerith Occupation Code 'Other Drainage And Sanitary Service' (962). Consequently, 15 men were recoded into OCCODE 727 ('TOWN DRAINAGE') and were therefore recategorised into Class IV.

Akin to the previous miscode, 42 men were wrongly placed into Social Class VI due to the word 'SORTER' in their occupational strings. The original coding, perhaps understandably, gave these men the OCCODE 557 ('WOOLLEN CLOTH MANUFACTURE SORTING'). On closer inspection however, it became apparent that these men were not sorting woollen cloth, but letters and parcels as part of the postal service. Examples of their occupational strings include 'LETTER SORTER LONDON', 'SORTER PARCELS' and 'SORTER LONDON POSTAL SERVICE'. Additionally, all 42 of these men had the Hollerith Occupation Code 'Other Post Office Officers And Clerks' (402). This evidence meant that these men were recoded into OCCODE 2 ('OTHER POST OFFICE OFFICERS AND CLERKS') in Social Class I.

Despite the extensive description of a total of 1,118 men recoded from Social Class VI thus far, an additional 425 men were recoded into a variety of different OCCODEs. This recording was notably into generic categories such as OCCODE 171 and 761 ('MESSENGER, PORTER, WATCHMAN (NOT RAILWAY OR GOVERNMENT)' and 'MANUFACTURERS, MANAGERS, SUPERINTENDENTS, FOREMEN (UNSPECIFIED)', respectively). It was observed that a number of men in the food and drinks manufacturing and service industries –

⁵⁰ Both definitions are from the Oxford English Dictionary: "sewer, n.1." *OED Online*, Oxford University Press, March 2021. Available at: www.oed.com/view/Entry/176971. [Accessed on 21st March 2021]; "sewer, n.3." *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/176973. [Accessed on 21st March 2021]

such as brewers, coffee and eating houses and chocolate makers – were also wrongly coded into Social Class VI. There was no common pattern apparent for this, however.

Table 4 shows the number of men recoded into each hierarchal social class, having originally been placed in Social Class VI, and Appendix C provides a full list of the recoding undertaken.

Table 4 - *The number of men in the London sub-population recoded from the Textile Workers Social Class to each of the five hierarchal social classes.*

Recoded Social Class	Frequency
I	103
II	182
III	434
IV	528
V	296
Total	1,543

Overall

In total, some 2,236 men were recoded from the industrial social classes into the five hierarchal social classes. Figure 2 shows the new social class distribution for the London sub-population used in this research project (married men subject to the inclusion criteria previously specified in the ‘Data and Cause for Concern’ section). Due to the relatively small number of recodes, the overall social class distribution stays close to constant. Additionally, Table 5 shows the absolute numbers of recoding from all three industrial classes. These figures show that the men were more likely to be recoded into social classes II-V rather than I. This fits with the general occupational structure, and with the outcomes of merging of the industrial classes with the hierarchal classes for the analysis of the 1921 census.⁵¹ It is interesting, however, that of these four social classes, there were fewest men newly placed into Social Class III, when this class is most dominant in the wider sub-population.

⁵¹ Despite the Registrar-General deeming the industrial classes demographically different enough to separate them from the hierarchal system, these three classes were merged into the hierarchal system for the analysis of the 1921 census. The occupations in Textiles, Mining and Agricultural Labourers were placed into classes III, IV and V according to their level of skill. For discussion of this, see: Szreter, ‘The Genesis of’, pp. 534-5; E. Garrett and A. Reid. (1994). ‘Satanic Mills, Pleasant Lands: Spatial Variation in Women's Work, Fertility and Infant Mortality as viewed from the 1911 Census’, *Historical Research*, 67(163): pp. 156-177. See p. 157.

Figure 2 - The number of married couples in the London sub-population in each of the Registrar-General's Social Classes. Left: based on the original husband occupations from 1911 I-CeM. Right: based on the recoding of husband occupations from the three industrial classes.

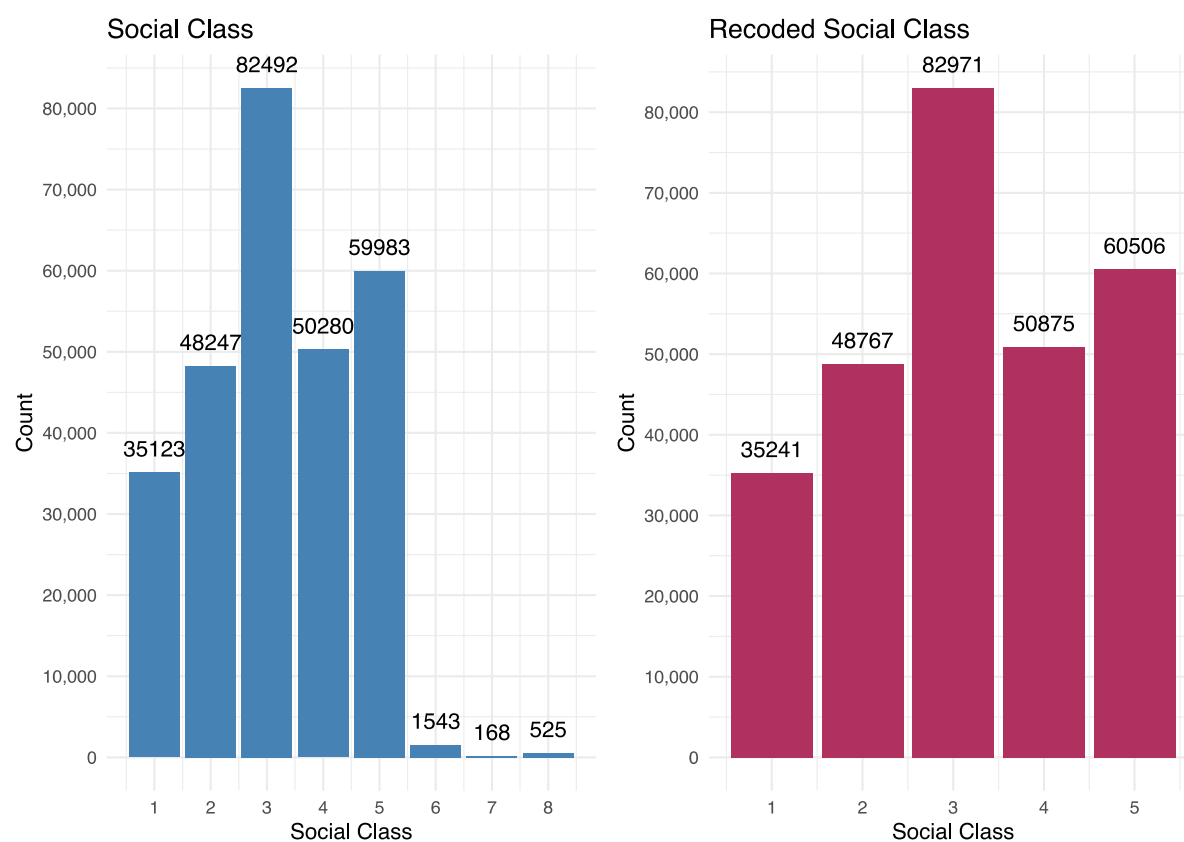


Table 5 - The number of men in the London sub-population recoded from the three industrial social classes to each of the five hierarchal social classes.

Recoded Social Class	Frequency
I	118
II	520
III	479
IV	596
V	523
Total	2,236

At this point, it may also be useful to compare the social class distribution of the sub-population to the distribution of the full male population of London. This means including men who did not meet the inclusion criteria, thereby predominantly single men, men married for over fifteen years and widowers. In 1911 I-CeM, 1,423,008 men were living in London and had a social class recorded. The social class numbers are displayed in Figure 3 and Table 6. From these we can see that the same problem of small percentage of industrial social classes being present, but also a similar distribution across the five hierarchal social classes. The main difference seen was the higher percentage of men in Social Class I for the London population when compared to the sub-population. This is perhaps explained by the nature of the sub-population used in this working paper. Notably, that couples had to be married for less than fifteen years to be included and thus the men were likely to be both younger in age, and more junior in occupational rank, hence lower social classes.

Figure 3 - The number of men recorded in each of the Registrar-General's Social Classes for the full London population (using 1911 I-CeM).

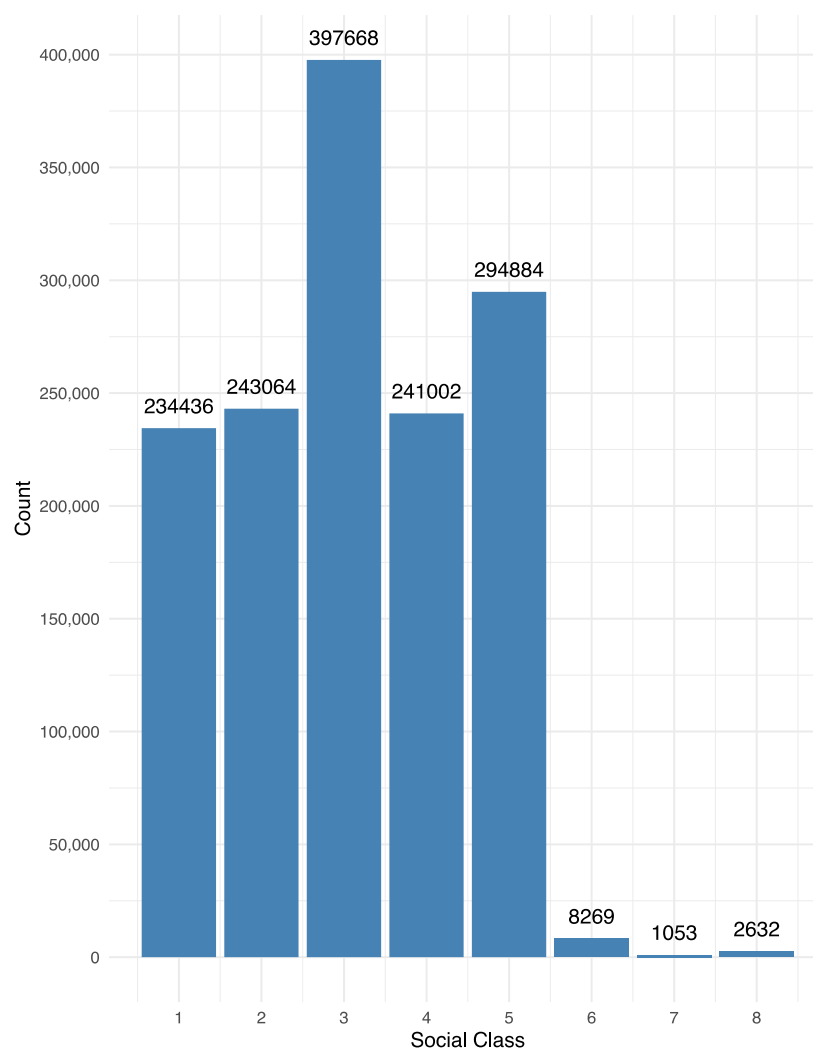


Table 6 - *The number of men recorded in each of the Registrar-General's Social Classes for the full London population (using 1911 I-CeM).*

Social Class	Frequency	Percentage
I	234,436	16.47
II	243,064	17.08
III	397,668	27.95
IV	241,002	16.94
V	294,884	20.72
VI	8,269	0.58
VII	1,053	0.07
VIII	2,632	0.18
Total	1,423,008	100.00

Conclusion

This working paper has highlighted the issues still present in the occupational coding, and therefore social class coding, of the married male population of London in 1911 I-CeM. In general, the miscoding of occupational strings found was caused by words, or parts of words, taken out of context from longer strings of text. The results of the miscoding led not only to an incorrect OCCODE, but also placed men and their families into the wrong social class. Through a combination of contextual knowledge, Occupational Strings and Hollerith Occupation Codes, the men in the sub-population that were originally in the Registrar-General's three industrial classes have been recoded to fit into the five hierarchal social classes. Whilst a minority of men could have remained in their original social class with their original OCCODE, the majority of recoding would have been necessary in any context. It is therefore likely that similar miscoding patterns will be found in previous censuses and in other urban localities in England and Wales. These findings alone could form the basis of a wider improvement of occupational variables in I-CeM.

Perhaps more importantly, however, this working paper has also identified the further potential of Hollerith Occupation Codes available for 1911. These have previously been under-utilised or abandoned in favour of other coding methods in the I-CeM project. The investigation here has shown the relevance of these codes – that were recorded at the time of the census – for the accurate coding of male occupations and consequently social class. It is suggested that the Hollerith Occupation Codes could firstly be used to verify the OCCODEs assigned to individuals and identify stings that need correcting within the 1911 census. Secondly, they could be used to

produce an accurate training data set of Occupational Strings and OCCODEs which would then be applied to other census years through a machine learning approach.

It is worth noting that the conclusions of this working paper are currently based only on the married men living in London who made up the sub-population of interest. They therefore do not cover single men, men married for over fifteen years, nor widowers. They also do not touch on the arguably wider issues surrounding the reporting and coding of women's work. Further research is needed to verify whether the miscode issues identified are found across the population, and whether the solutions suggested work universally.

Overall, this working paper has highlighted a number of key occupational miscodes that are still present in I-CeM and shown the further potential of 1911 Hollerith Occupation Codes. The recoded dataset can be used for additional studies on married men in early twentieth-century London and the findings continue the work on the improvement of the occupational and social class coding across I-CeM.

Acknowledgements

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Appendices

The three Appendices below list the full range of recoded OCCODEs and Social Classes for those men originally placed into the industrial classes in 1911 I-CeM. The Appendices look at each industrial class in turn. Each row represents one recoded OCCODE.

Examples of Occupational Strings can be found in the first column; the second column provides the original OCCODE (note that the descriptions of the OCCODEs are only written the first time the code appears in each table, and have been taken from the I-CeM Guide); the third and fourth columns specify the recoded OCCODE and its description, and the recoded Social Class; the fifth column lists the main Hollerith Occupation Codes used in each recode; the sixth column provides the number of men that each recode was applied to and the final column gives comment to whether each recode was necessary, or whether it was only recoded due to the nature of the analysis being undertaken on London. Further notes are also put in the final column.

A .csv file with the data in its entirety can be requested from slr74@cam.ac.uk.

Appendix A

Social Class VIII - Agricultural Labourers

The table below lists the full range of recoded OCCODEs for those men placed into Social Class VIII in 1911 I-CeM.

Occupational String(s)	OCCODE(s) - Original	OCCODE - Recode	Social Class - Recode	Hollerith Occupation Code(s)	Number of men	Necessary Recode?
'DAIRY FOREMAN'; 'DAIRY MAN'; 'DAIRY ASSISTANT'; 'DAIRYMAN'; 'MILKMAN'; 'COWMAN'; 'YARD FOREMAN'; 'STABLE MAN DAIRY'; 'YARDSMAN'; 'MILKMAN CARTER'; 'COWMN ON FARM'; 'DAIRY WORK'; 'COURMAN'; 'DAIRY MANAGER'	179 - AGRICULTURAL LABOURER, FARM SERVANT-- DISTINGUISHED AS IN CHARGE OF CATTLE 180 - AGRICULTURAL LABOURER, FARM SERVANT-- DISTINGUISHED AS IN CHARGE OF HORSES 181 - AGRICULTURAL LABOURER, FARM SERVANT--NOT OTHERWISE DISTINGUISHED	677 - COWKEEPERS, MILKSELLERS	2	916 - 'Milksellers, Dairymen'	286	Yes
'YARD FOREMAN'	179	498 – OIL AND COLOURMEN	3	798 - Oil and Colourmen	1	Yes
'YARD FOREMAN'	179	467 - EARTHENWARE, CHINA, PORCELAIN-- MANUFACTURE	4	773 - Earthenware, China, Porcelain – Manufacture	1	Yes
'YARD FOREMAN'	179	462 – TIMBER MERCHANTS WOOD DEALERS	2	768 - Timber, Wood, Cork, Bark - Merchants, Dealers	1	Yes
'YARD FOREMAN'	179	461 – OTHER WORKERS IN WOOD	4	767 - Other Workers In Wood	2	Yes
'YARD FOREMAN'; 'RAMMERSMAN ON'	179 180	435 – PAVIORS	5	749 - Paviours; Road Labourers (Others)	2	Yes
'YARD FOREMAN'	179	380 – METAL DEALERS	2	702 - Other Dealers In Metals, Machines, &C.	1	Yes
'YARD FOREMAN'	179	237 - STONE DEALERS	1	599 - Dealers in Stone, Slate, &C.	1	Yes
'YARD FOREMAN'	179	151 - OMNIBUS SERVICE -- OTHERS	3	530 - Omnibus Service (Others)	1	Yes

'YARD FOREMAN'	179	137 - MOTOR GARAGE --- PROPRIETOR, WORKER	4	522 - Motor garage - Proprietors, Workers	1	Yes
'YARD FOREMAN'	179	15 - MUNICIPAL, PARISH, AND OTHER LOCAL OR COUNTY WORKERS	2	409 - Munic., Parish, And Other Local Or County Officers	2	Yes
'YARD FOREMAN'; 'OVERLOOKER ON EXPLOSIVE'	179	761 – MANUFACTURERS, MANAGERS, SUPERINTENDENTS, FOREMEN (UNSPECIFIED)	4	994 - Contractors, Manufacturers, Mangers, Superintendents. (Undf.)	4	Yes
'YARD FOREMAN'	179	758 - GENERAL SHOPKEEPERS DEALERS	2	991 - Genrl. Or Unclassified Shopkeepers; Genrl. Dealers	1	Yes
'JOBING MAN ON BUILDING'	179	407 – BUILDERS' LABOURER	5	732 - Builders' Labourers	5	Yes
'SPECIAL ON POLITICAL BRANCH CRIMINAL INVESTIGATION DEPT NEW SCOTLAND YARD SW A DETECTIVE'	179	11 – POLICE	1	407 - Police	2	Yes
'ENGAGED ON ECONOMIC ENGINEERING'	179	6 - OTHER CIVIL SERVICE OFFICERS AND CLERKS	1	405 - Other Civil Service Officers And Clerks	1	Yes
'HANDYMAN ON ESTATE'; 'LABORER ON BUILDINGS'; 'SEAFLO ON BUILDINS'; 'FARM LABOURER'; 'GENERAL FARM LABOUR'; 'LABOURER AGRICULTURE'; 'TRUSTEES SERVANT LABOURER'; 'LABOUR ON FARM'; 'GENERAL ALBOURER'; 'LABOURER CORN'	180 181	765 - GENERAL LABOURERS	5	120 - Agricultural Labourers, Farm Servants (Distinguished As In Charge Of Cattle) 140 - Agricultural Labourers, Farm Servants (Not Otherwise Distinguished) 330 - General Labourers	107	For the 18 men with Hollerith Occupational Codes of 330 and similar, this was a necessary recode. The remaining 89 men with agricultural labourer Hollerith Occupation Codes (in this case 120 and 140) were recoded due to the nature of the London- only analysis.
'QUIRISTER PROFESSIONAL SINGER ON SYNAGOGUE';	180	76 – MUSICIAN, MUSIC MASTER, SINGER (NOT TEACHERS)	2	465 - Musicians, Music Masters, Singers	2	Yes

'PIANIST ON ATLANTIC LINES'						
'POINTER ON BUILDINGS'	180	412 – BRICKLAYER	3	220 - Bricklayers	1	Yes
'ENGAGED ON HOUSEKEEPING'; 'HOUSE MAN'	180	84 - OTHER DOMESTIC INDOOR SERVANTS -- UNDEFINED	3	471 - Dom. Indoor Servants. In Hotels, Lodging House, & Eating Houses	2	Yes
'FIRE-DROPPER ON LOCOMOTIVE ENGINES'; 'BANKSMAN ON CRANE'	180	766 - ENGINE DRIVERS, STOKERS, FIREMEN (NOT RAILWAY, MARINE, OR AGRICULTURAL)	4	340 - Engine - Drivers, Stokers, Firemen (Not Railway, Marine, Or Agricultural)	2	Yes
'CARTER ON BOROUGH COUNCIL'; 'CARTER ON BISCUIT FERRON'; 'CARRIERS YARDMAN'; 'CARMAN ON BOROUGH COUNCIL'; 'CHECKER ON FLAT FORM'; 'WAGGONER ON FARM'; 'CARMAN ON FARM' 'CARMAN CARTER ON FARM'	179 180 181	141 - CARMEN CARRIERS CARTERS AND DRAYMEN	5	070 - Carmen, Carriers, Carters, Wgnrs. (Not Farm) 130 - Agricultural Labourers, Farm Servants (Distinguished As In Charge Of Horses) 526 - Others Connected With Carrying Or Cartage	37	For the 20 men with Hollerith Occupation Codes of 070 and 526, this was a necessary recode. The remaining 14 with agricultural labourer Hollerith Occupation Codes (in this case 130) were recoded due to the nature of the London-only analysis.
'VUST-WRIGHTMAN ON STAGE'	180	80 - PERFORMERS SHOWMEN EXHIBITION SERVICE	2	469 - Performers, Showmen; Exhibtn., Games – Service	1	Yes
'SECRETARY TO COMMITTEE ON ANALYSIS ON CUSTOMS AND EXCISE'	180	118 – OFFICERS OF COMMERCIAL AND OTHER COMPANIES	2	454 - Others Connected With Literature, &C. (Other)	1	Yes
'SHUNTING ON G CONTROL'; 'GATEMAN ON THE U E RLY'; 'CHECKER ON RWAY'	180	130 - POINTSMAN, LEVEL CROSSING MAN, GATEKEEPERS	4	515 - Pointsmen, Level Crossing Men	4	Yes
'SWEEPER ON BOROUGH COUNCIL'; 'SWEEPER ON ROADS'; 'DUSTMAN ON J B C'	180	728 - SCAVENGING, STREET CLEANERS, CROSSING SWEEPERS, DUSTMEN	5	963 - Local Authy. Scavenging And Disposal Of Refuse	3	Yes
'LATHER ON BUILDING'	180	417 – PLASTERER	3	736 - Plasterers	1	Yes

'LIFTMAN ON U E R'; 'NURSERY ON TUBES'; 'LIFTMAN ON ROADWAY'; 'STABLEMAN ON RLYWAY COY'	180	134 - OTHER RAILWAY SERVANTS	2	519 - Other Railway Servants	11	Yes
'COPPER-PLATE ON GRAVER'	180	73 - ENGRAVERS (ARTISTS) AND LITHOGRAPHIC ARTISTS	2	463 - Engravers	1	Yes
'PLAUGHMAN'; 'PLOUGHMAN'; 'PLOUGH SHIFTER'; 'BRAKES ON FRAMES'; 'HORSE KEEPER ON TRAMWAYS'; 'BARROWS LET ON HIRE'; 'UNDERGEAR EXAMINER ON TRAMCARS'; 'PLOUGH EXMASSIMER'; 'LEADING MOTORMAN ON LONDON ELETRIC RAILWAYS'; 'MOTORMAN ON TRANS'	180	154 - TRAMWAY SERVICE - --OTHERS	3	533 - Local Authority Tramway Service	17	Yes
'NIGHT WATCHMAN ON FLATS'; 'WATCHMAN ON RIVER'	180	171 - MESSENGER, PORTER, WATCHMAN (NOT RAILWAY OR GOVERNMENT)	5	090 - Messengers, Porters, Watchmen (Not Rly. Or Govt.)	2	Yes
'BAKERY ON EVEN'; 'YARD FOREMAN'	180	691 - BAKERS (DEALERS)	2	926 - 'Bakers, Confectioners (Dealers)	2	Yes
'TENLLERYMAN'	180	721 - OTHER HOTEL SERVANTS	4	948 - Others In Inn, Hotel, Eating House - Service	1	Yes
'SEAMAN ON FURLOUGH'	180	24 - MEN OF THE NAVY (INC COASTGUARDS)	4	416 - Men of the Navy	1	Yes
'ONTRACTOR HORSEMAN'	180	104 - CHARWOMEN	5	020 - Charwomen	1	Yes
'CARRYING ON MILLINERY BUSINESS'	180	650 - MILLINERS (NOT RETAIL - WORKSHOP/FACTORY)	2	895 - Milliners	1	Yes
'ON HAUDROLIC PRESS'; 'MANUFACTURER AND IMPORTER OF PAPER FANCY GOODS'; 'FANCY FRAME LEREEN';	180	530 - PAPER DEALERS	2	819 - Other Dealers in Paper	5	Yes

'MANUFACTURER OF FANCY PAPER TABLE DECORATIONS'						
'TRAVELER ON'	180	114 - COMMERCIAL TRAVELLERS AND MANUFACTURERS' AGENTS	1	494 - Commercial Traveller	1	Yes
'ON BUSINESS'	180	542 - BOOKBINDERS	3	826 - Bookbinders	1	Yes
'SHUTESMAN ON WARFE'	180	166 - STEVEDORES, WHARF AND DOCK LABOURERS	5	080 - Dock Labourers, Wharf Labourers	1	Yes
'GASMAKERS ON FURNACE'	180	316 - GAS FITTINGS MAKERS	4	604 - Steel - Manufacture, Smelting, Founding	1	Yes
'GANGER ON L B S RLY'	180	131 - PLATELAYER, GANGER, PACKER	5	516 - Platelayers, Gangers, Packers	1	Yes
'PIANOFORTE TRADE ON PNEUMATIC PLAYER'	180	393 - PIANO ORGAN MAKERS	3	721 - Piano, Organ - Makers	1	Yes
'CHAIRWOMAN ON DREDGER'	180	167 - HARBOUR, DOCK, WHARF, LIGHTHOUSE-- OFFICIALS AND SERVANTS	4	554 - Harbour, Dock, Wharf, Lightho. - Officials And Servants - (Other)	1	Yes
'MATE ON NL ORD VESSEL BISONI'	180	157 - MERCHANT SERVICE; SEAMAN- NAVIGATING DEPARTMENT	2	541 - Merchant Service; Seamen (Navigating Department)	1	Yes
'BREWERS SERVANT LABOURER'	181	709 - BREWERS	4	938 - Brewers	2	Yes
'SHEDMAN'	181	506 - TANNERS FELLMONGERS	4	802 - Tanners	7	Yes
'SHEPPING CLERK'	181	119 - COMMERCIAL OR BUSINESS CLERKS	1	050 - Typing, &C. Business (Commercial Or Business Clerks)	1	Yes

Appendix B

Social Class VII – Miners

The table below lists the full range of recoded OCCODEs for those men placed into Social Class VII in 1911 I-CeM.

Occupational String(s)	OCCODE(s) - Original	OCCODE - Recode	Social Class - Recode	Hollerith Occupation Code(s)	Number of men	Necessary Recode?
'MINER COAL'; 'COAL MAN'; 'COAL TIPPER'; 'COAL HEAVIER'; 'COAL CHECKER'; 'COAL LABOURER'; 'COLLIER'; 'COAL FILLER'; 'COAL WHEELER'; 'COAL MINER TIMBERMAN'; 'COAL SORTER'; 'COAL FOREMAN'; 'COAL WORKER'; 'COAL COLLECTOR'; 'MINER IN S AFRICA'; 'MINER SERVE'; 'MINING'; 'MINE LABOURER'; 'MAY MINER'	196 -COAL MINERS - HEWERS, WORKERS AT THE COAL FACE 198 - COAL MINERS - OTHERS BELOW GROUND & UNDEFINED 208 - COPPER MINER 211 - MINERS IN OTHER OR UNDEFINED MINERALS	170 - COALHEAVER; COAL--PORTER, LABOURER	5	557 - Coalheavers; Coal - Porters, Labourers 754 - Navvies; Railway, &C. – Contractors	33	A number of these men may have been originally coded correctly as miners, but they were recoded due to the nature of the London-only analysis.
'STALEMAN'; 'HORSEKKEPER'; 'HORESEKEEOER'; 'YARD FORMAN'; 'FORAGE LOAD'	196 210 – LEAD MINER	139 - HORSEKEEPER, GROOM, STABLEMAN (NOT DOMESTIC)	5	061 - Horsekeepers, Grooms, Stablemen (Not Dom.)	5	Yes
'LAODER'	196	141 - CARMEN CARRIERS CARTERS AND DRAYMEN	5	526 - Others Connected With Carrying Or Cartage	1	Yes
'DOKEHASE'	196	718 - BOARDING LODGING HOUSE WAITERS (NON- RESIDENT)	3	947 - Waiters (Not Domestic)	1	Yes
'LAMP CLEANER'; 'LAMP MAN'	196 198 201 - MINE SERVICE ENGINEERS	137 - MOTOR GARAGE --- PROPRIETOR, WORKER	4	522 - Motor Garage - Proprietors, Workers	15	Yes

'JEWELLEY GOBBER'	198	385 - OTHER WORKERS GOLD SILVER JEWELLERY	4	711 - Goldsmiths, Silversmiths, Jewellers	1	Yes
'OMNEBAS HOREKEEPER'	198	151 - OMNIBUS SERVICE -- OTHERS	3	530 - Omnibus Service (Others)	1	Yes
'HARRER'; 'HURRIER'	198	262 - BLACKSMITHS	3	190 - Blacksmiths, Strikers	2	Yes
'LANDEN REDPRIETOR'; 'TEA MINER'	198 211	697 - GROCERS TEA DEALERS	2	320 - Grocers: Tea, Coffee, Chocolate – Dealers	2	Yes
'HANDMAN'; 'GROUND WORK NAVERY'; 'BANKSMAN'	198 200 - COAL MINERS ABOVE GROUND	407 – BUILDERS' LABOURER	5	732 - Builders' Labourers	4	Yes
'BARGER LOADER'	198	166 - STEVEDORES, WHARF AND DOCK LABOURERS	5	080 - Dock Labourers, Wharf Labourers	1	Yes
'STOWER'	198	715 – BEER BOTTLER	3	994 - Beer Bottlers	1	Yes
'GOOD LOADER'; 'LOADER MIDLAND RAIY'; 'CHECK LOADER'; 'LOADER TRUCKS'; 'LOADING WAGENS'	198	133 - RAILWAY PORTER	5	518 - Railway Porters	5	Yes
'OAKER'	198	84 - OTHER DOMESTIC INDOOR SERVANTS -- UNDEFINED	3	471 - Dom. Indoor Servants. In Hotels, Lodging House, & Eating Houses	1	Yes
'TRICYCLE RIDER'; 'BANK'S NIGHTWATCHMAN'	198	171 - MESSENGER, PORTER, WATCHMAN (NOT RAILWAY OR GOVERNMENT)	5	090 - Messengers, Porters, Watchmen (Not Rly. Or Govt.)	4	Yes
'DEPUTING'; 'DEPTEY'	198 – As above	712 - LODGING AND BOARDING-HOUSE KEEPERS	2	942 - Lodging House, Boarding House – Keepers	2	Yes
'LABOURER UNDERGROUND'; 'LIFTMAN UNDERGROUND RLY'; 'MINERS LABOURER UNDERGROUND S E'; 'GROUND LABOURER IN WB';	198 199 - RAILWAY LABOURERS NAVVIES (COAL MINE) 201 211	134 - OTHER RAILWAY SERVANTS	2	519 - Other Railway Servants 754 - Navvies; Railway, &C. – Contractors	18	Yes

'PAINTER AT THE UNDER GROUND RLY'; 'KING CROSS'; 'MINER TUBE RAILWAYS'; 'CHARGEMAN'; 'MINER UNDERGROUND'; 'SUBWAY MINER' 'DRIVER UNDERGROUND'; 'MOTORMAN UNDERGROUND RLY'; 'UNDERGROUND MOTORMAN'						
'LABOYR'; 'SHILLED LABOURER'; 'ASBESTOS MILLBOARD MANUFACTURES'	198 212 – GOLD MINER	765 - GENERAL LABOURERS	5	330 - General Labourers; 557 - Other Workers In Products Of Quarries	3	Yes
'LABOURER UNDER'; 'SEWERMAN UNDERGROUND'; 'SURFACE FLUSHER'; 'SEWER MINER'	198 211	727 - TOWN DRAINAGE	4	962 - Other Drainage And Sanitary Service	8	Yes
'WIREMEN'	198	286 - OTHER ELECTRICAL APPARATUS MAKERS	3	636 - Other Electrical Apparatus Makers; Elec. Fitters (Other)	1	Yes
'CRICKET GROUND ATTENDANT'; 'LABOURER CRICKET GROUND'; 'GROUND LABOURER CRICKET FIELD'; 'GROUND CULTIVATOR'	199	81 -BILLIARDS CRICKET AND OTHER GAMES SERVICE	2	469 - Performers, Showmen; Exhibtn., Games – Service	4	Yes
'TOP GRINABE'	200	464 - BRICK, PLAIN TILE, TERRA-COTTA--MAKER	5	773 - Earthenware, China, Porcelain – Manufacture	1	Yes
'OPTICAL SURFACE'	200	372 - DEALERS IN ELECTRICAL APPARATUS	2	714 - Scientific Instrument Makers; Opticians	1	Yes. Note that this was the best match between Hollerith Occupation Code and OCCODE, and the OCCODE of others with similar Occupational Strings.
'YARD FORMAN';	200	237 - STONE DEALERS	1	599 - Dealers In Stone, Slate, &C.	2	Yes

'STEEPLEJACK BRICK STONE AND IRON'	207 - IRON--MINER, QUARRIER					
'HUNKER'	200	760 - HAWKERS HUCKSTERS COSTERS	5	993 - Costermongers, Hawkers, Street Sellers	1	Yes
'BOOTES REPARER'	201	663 - SHOE AND BOOT MAKERS (AND REPAIRERS)	3	300 - Boot, Shoe-makers	1	Yes
'CHAFF-CUTTER'	201	688 - HAY STRAW AND CHAFF CUTTERS	2	061 - Horsekeepers, Grooms, Stablemen (Not Dom.)	1	Yes. Note that there was no specific Hollerith Occupation Code for chaff cutters.
'ANE SHIFTEN'	201	79 -ART, MUSIC, THEATRE, CINEMA – SERVICE ETC	2	467 - Art, Music, Theatre - Service, &C.	1	Yes
'CRANESMAN'	201	766 - ENGINE DRIVERS, STOKERS, FIREMEN (NOT RAILWAY, MARINE, OR AGRICULTURAL)	4	340 - Engine - Drivers, Stokers, Firemen (Not Railway, Marine, Or Agricultural)	1	Yes
'PIANTER LABOURES'	201	421 - PAINTERS, DISTEMPERERS & DECORATORS	3	240 - Painters, Decorators	1	Yes
'COLLIERY PROFRICTOR COAL AND BRICK MANUFACTURE'	203 - MINE SERVICE OTHERS (COAL)	202 – MINE – OWNER, AGENT, MANAGER	1	171 - Coal And Shale Mine (Owners, Agents, Managers)	1	Yes
'CLERK TO COLLIERY OWNERS COAL'; 'MINING ENGINEERS CLERK'; 'LABOR ESTIMATOR'; 'STOREMAN CLERICAL WORK AND ETG FOREMAN AT COMES'; 'PORT OF LONDON AUTHORITY CLERK'; 'DOCK CLERK P L A'	203	119 - COMMERCIAL OR BUSINESS CLERKS	1	050 - Typing, &C. Business (Commercial Or Business Clerks)	6	Yes
'HOT WORKER FITTER'	203	441 - HOT WATER APPARATUS PIPE JOINTERS	3	754 - House And Shop Fitting Makers	1	Yes. Note that this was the best match between Hollerith Occupation Code and OCCODE.
'BREWEY LABOR'	203	709 - BREWERS	4	938 – Brewers	1	Yes
'WORKER MECHANIC'	203	279 – DOMESTIC MACHINERY MAKERS	4	629 - Other Or Undef. Wkrs. In Engine And Machine Mkg. (Others)	1	Yes. Note that this was the best match between Hollerith

						Occupation Code and OCCODE.
'COAL AND ASHMAN AT L C C GENERATING STATION E GREENWICH'	203	235 – COAL MERCHANTS AND DEALERS	2	956 - Local Authority Electricity Supply - A. Generation And Distribution	1	Yes. Note that this was the best match between Hollerith Occupation Code and OCCODE, and the OCCODE of others with similar Occupational Strings.
'EXPLOSIVE WORKER FITTER TUBER'; 'ASST TIMEKEEPER'	203	761 - MANUFACTURERS, MANAGERS, SUPERINTENDENTS, FOREMEN (UNSPECIFIED)	4	994 - Contractors, Manufacturers, Mangers, Superintendents. (Undf.)	2	Yes
'IRON AND COPPER ENAMELOR'; 'FIREMAN AT COPPER FOUNDRY'	208	268 – COPPERSMITHS (VARIOUS)	3	673 - Copper Workers	2	Yes
'LABOURR SOAPWASH'; 'TOILET SOAP MINER'	208 211	487 - SOAP BOILERS AND MAKERS	5	793 - Soap - Boilers, Makers	2	Yes
'TIN MINING'	209 - TIN MINER	114 - COMMERCIAL TRAVELLERS AND MANUFACTURERS' AGENTS	1	494 - Commercial Traveller	1	Yes
'BASS-DRESING'	209	512 - BRUSH AND BROOM MAKERS	5	807 - Brush, Broom - Makers; Hair, Bristle – Workers	1	Yes
'STEAM PRESS TIN WORK'	209	263 – FITTERS, TURNERS (ENGINE AND MACHINE)	3	672 - Tinplate Goods Makers	1	Yes. Note that this OCCODE was given to others with similar Occupational Strings.
'TIN WORK LABOUR'; 'TIN SMITH MATEL WORK'; 'TIN CONTRACTORS GENERAL LABOURER TIN FACTORY'; 'TIN SHOP LABOURER'; 'TIN SEMESTING LABOURER'; 'TIN SCOURER AT PEEK FREANS'; 'TIN AND SMITH'	209	246 - TINPLATE MANUFACTURE	4	672 - Tinplate Goods Makers	7	Yes
'TIN PINNING AND LANDSCAPE GARDENING'	209	183 - NURSERYMAN, SEEDSMAN, FLORIST	4	564 - Nurserymen, Seedsmen, Florists	1	Yes

'DRESSING GOWNS'	209	654 - OTHERS CLOTHING MANUFACTURERS	3	290 - Shirt Makers; Seamstresses	1	Yes
'HAS STOPER'	209	732 - GAS WORKS SERVICE	4	952 - Other Gas Works Service - A. Gas Makers	1	Yes
'LEAD LABOURER'	210	248 - LEAD MANUFACTURE	4	674 - Leaden Goods Makers	3	Yes
'FOXMMAR MANGANESE BRONZE'	211	260 - BRASS FOUNDERS	3	622 - Brassfounders	1	Yes
'PANMAN'	211	693 – SUGAR REFINERS	5	928 - Jam, Preserve, Sweet – Makers	1	Yes
'Y OUTTER'	212	438 - FURNITURE AND FITTINGS - OTHERS	3	751 - Cabinet Makers	1	Yes
'PLASTIC'	212	417 - PLASTERER	3	736 - Plasterers	1	Yes

Appendix C

Social Class VIII – Textile Workers

The table below lists the full range of recoded OCCODEs for those men placed into Social Class VI in 1911 I-CeM.

Occupational String(s)	OCCODE(s) - Original	OCCODE - Recode	Social Class - Recode	Hollerith Occupation Code(s)	Number of men	Necessary Recode?
'SCALESMAN AND COUNTER HAND'	548 - COTTON & COTTON GOODS MANUFACTURE CARD BLOWING ROOM PROCESSES	680 - PROVISION DEALERS	2	918 - Cheesemongers, Buttermen, Provision Dealers	1	Yes
'CYCLE TYRE STOCK ROOM HAND'; 'GUTTA PERCHA DRYER'	548 568 - WORSTED AND STUFF MANUFACTURE OTHER PROCESSES	489 - INDIA RUBBER AND GUTTA PERCHA MAKERS	5	795 - India Rubber, Gutta Percha – Workers	2	Yes
'LATHE AND VACE HAND'; 'TWIST DRILL GRINDELL'	548	290 - TOOLMAKERS	3	644 - Tool Makers	2	Yes
'FOREMAN IN SECOND HAND TEA BROKERS SALE ROOM'; 'WOOL SAMPLING'; 'RIBBON MANUFACTURERS AGENT'; 'DIRECTOR OF SECRETARY SILK MERCHANTS'; 'SILK AGENT'S MANAGER'; 'LINEN DEALER'; 'FIBRE MERCHANT'; 'JUTE MERCHANT'; 'BAG MERCHANT'; 'SACK MERCHANTS'; 'LACE CURTAIN SALESMAN'; 'CARPET SALESMAN'; 'CARPET MERCHANT'; 'LADY TRIMMING MERCER'; 'ORIENTAL AND FANCY GOODS MERCHANT'; 'FANCY BAZAAR BUSINESS'	548 557 - WOOLLEN CLOTH MANUFACTURE SORTING 577 - RIBBON MANUFACTURE 593 - LACE MANUFACTURE 595 - FELT MANUFACTURE (VARIOUS) 597 - TRIMMING MAKERS 599 - FANCY GOODS TEXTILE MANUFACTURE (VARIOUS)	112 - BROKERS, FACTORS, COMMERCIAL AGENTS (NOT - MINE, QUARRY, INSURANCE)	1	492 - Brokers, Agents, Factors 886 - Other Dealers In Textile Fabrics	52	Yes

	604 - TAPESTRY MANUFACTURE 608 - FACTORY HANDS (TEXTILE) UNDEFINED (VARIOUS) 614 - WOOL WOOLLEN GOODS PRINTERS 623 - WOOL WOOLLEN GOODS FINISHERS					
'DRAWING INSTRUCTOR'	548	52 - SCHOOLMASTERS AND TEACHERS (DEFAULT)	1	000 - Schoolmasters, Teachers, Professors, Lecturers (In Schools &C. Under Local Authorities)	1	Yes
'MILL PACKER'; 'MIXING ROOM HAND'; 'COCOA ESSENCE DRESSER'	548 626 - FLAX LINEN FINISHERS	695 - CHOCOLATE COCOA MAKERS	4	925 - Bread, Biscuit, Cake, &C. – Makers 929 - Chocolate, Cocoa – Makers	3	Yes. Note that this OCCODE was given to others with similar Occupational Strings.
'PAINT GRINDER MILL HAND'; 'ASSISTANT MAKER'	548	474 - DYE AND PAINT MANUFACTURE	4	780 - Dye, Paint, Ink, Blacking – Manufacture	2	Yes
'COFFE AND DINNING ROOM'	548	711 - COFFEE AND EATING-HOUSE KEEPERS	2	941 - Coffee House, Eating House – Keepers	1	Yes
'COTLER'; 'LINEN STABLES WORKER'	548 580 - FLAX LINEN AND DAMASK MANUFACTURE (VARIOUS)	139 - HORSEKEEPER, GROOM, STABLEMAN (NOT DOMESTIC)	5	061 - Horsekeepers, Grooms, Stablemen (Not Dom.)	2	Yes
'TUN ROOM HAND'; 'STOKER AT BREWERS FACTORY'	548 583 - COCOA FIBRE MANUFACTURE (VARIOUS)	709 - BREWERS	4	938 - Brewers	2	Yes
'COTTON SPINNERS PORTER'; 'PORTER IN A SAW MILL'; 'CLOTH WORKER PORTER'; 'PORTER AND MILL HAND';	549 - COTTON & COTTON GOODS MANUFACTURE SPINNING PROCESSES	171 - MESSENGER, PORTER, WATCHMAN (NOT RAILWAY OR GOVERNMENT)	5	090 - Messengers, Porters, Watchmen (Not Rly. Or Govt.)	17	Yes

'SILK WHOLESALE MINERS PORTER FORMAN'; 'LINEN HOUSE'; 'WOOLLEN WATCHMAN'	555 - COTTON & COTTON GOODS MANUFACTURE UNDEFINED 572 - WORSTED AND STUFF MANUFACTURE UNDEFINED 578 - SILK WORKERS - OTHER PROCESSES 583 588 - SACKING MANUFACTURE (VARIOUS) 589 - TENT MAKER 599 607 - OTHER WORKERS SUNDRY FABRICS UNDEFINED 608 614 615 - SILK PRINTERS 623					
'ARNATURE WINDER'; 'FIELD WINDER'; 'ATMATIVE WINDER'; 'ELECTRIAN POWER MOTORS MAKER'	550 - COTTON & COTTON GOODS MANUFACTURE WINDING WARPING PROCESSES 587 - CANVAS AND SAILCLOTH MANUFACTURE (VARIOUS)	286 - OTHER ELECTRICAL APPARATUS MAKERS	3	636 - Other Electrical Apparatus Makers; Elec. Fitters (Other)	4	Yes
'SHIRT COTTON'; 'COTTON MANUFACTURER'; 'LENEN COTTON CUTTER'; 'COTTON BAG CUTTER';	551 - COTTON & COTTON GOODS MANUFACTURE WEAVING PROCESSES	654 - OTHERS CLOTHING MANUFACTURERS	3	852 - Silk - Weaving Processes 875 - Smallware Manufacture	187	173 of these men, notably those falling into the silk and textile finishing industries, were recoded due to the nature of the

'PREPARER OF CLOTH FOR EMBROIDERING'; 'COTH SPRINKER'; 'CLOTHWORKER SHRINKING'; 'CLOTHWORKER SHRINKING'; 'CLOTH-WORKER'; 'STOCK KEEPER WITH WOOLLEN AND WORSTED MANUFACTURER'; 'WOOLLEN MANUFACTURE'; 'WOO FERETCUTTER'; 'CLOTH MACHINER'; 'SILK WEAVER'; 'SILK TWISTER'; 'SILK SPINNER'; 'LINEN MANUFACTURER'; 'LACE MANUFACTURER'; 'HAND LOOM WEAVER'; 'SPINNER'	555 556 - FUSTIAN MANUFACTURE 557 560 - WORSTED AND STUFF MANUFACTURE SPINNERS PIECERS 566 -WOOLLEN CLOTH MANUFACTURE OTHER PROCESSES 569 - KNITTER (WOOLEN ARTICLES) 571- WOOLLEN CLOTH MANUFACTURE UNDEFINED 572 580 586 - NET MANUFACTURE (VARIOUS) 593 606 - WEAVERS (UNDEFINED) 607 608 623 627 - UNDEFINED TEXTILE FINISHERS			878 - Other Workers In Sundry Fabrics And Undefined 883 - Textile Dyers 884 - Textile - Calenderers, Finishers, &C. (& others)		London-only analysis. The remaining 14 men needed to be recoded in any context.
'PACKER IN COTTON WAREHOUSE'; 'MALB MILL PACKER'; 'COTTON WAREHOUSE PACKER'; 'WHAREOUSEMAN';	552 - COTTON & COTTON GOODS MANUFACTURE OTHER PROCE 556	770 - FACTORY LABOURERS (UNDEFINED)	5	865 - Rope, Twine, Cord – Makers 886 – Other Dealers In Textile Fabrics 901 – Hosiers, Haberdashers	220	These 220 men were associated with the textile industry through the nature of the material they worked with. They were therefore recoded due to the nature

'FORMAN SORTER RAGWAREHOUSE'; 'WOOL SORTER LABOURER'; 'RAP SORTER'; 'CHECKING WOOLLEN AND TRIMMINGS USED BY CUTTER IN WHOLESALE CLOTHIERS'; 'WOOL PACKER'; 'WOOLWAREHOUSEMAN'; 'WOOLLEN GOODS PACKER'; 'WOOLLEN PATTERN MAN'; 'BREAKER FEEDER'; 'DIE SETTER IN TIN FACTORY'; 'WOOLLEN WAREHOUSE'; 'SILK WAREHOUSMAN'; 'ROPE SORTER'; 'WASTE SORTER'; 'CLOTH SORTER'; 'SPINDLE HAND'	557 564 - BLANKET MANUFACTURE (VARIOUS) 565 - OTHER WEAVING PROCESSES (WOOL) 568 574 - SILK WORKERS - SPINNERS 578 580 583 584 - ROPE, TWINE, CORD – MAKERS 588 589 593 596 - CARPET RUG MANUFACTURE (VARIOUS) 598 - TAPE MANUFACTURE (VARIOUS) 599 607 608 614 616 - COTTON & CALICO PRINTERS 617 - UNDEFINED TEXTILE PRINTERS			991 - Genrl. Or Unclassified Shopkeepers; Genrl. Dealers (& others)		of the London-only analysis, although it could be argued that this is a necessary recode in any context.
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	618 - WOOL WOOLLEN GOODS DYERS 620 - COTTON & CALICO DYERS 622 - UNDEFINED TEXTILE DYERS 623 627					
'BARGEBUILDS JURN'; 'ROPEMAKER'; 'ROPE SPLICER'; 'ROPE SPINNER'; 'TWINE SPINNER'; 'STRING MAKER'; 'CORD MAKER'; 'JUTE SPINNER POPEMKRS'; 'CANVASSER'; 'SACK MAKER AND DEALER'; 'SACK REPAIRER'; 'SACK CUTTER'; 'SACK MARKER'; 'CUTTER OUT'; 'FELT MANUFACTURERS'; 'FELT FIXER'; 'FELT MAKER'; 'CARPET MAKER'; 'CARPET REPAIRER'; 'WOOL RUG DRESSER'; 'RUG MANUFACTURER'; 'BLIND CORD MAKER'; 'SPUNYARN REDER'	552 582 - JUTE MANUFACTURE (VARIOUS) 584 595 596 617 626	359 - SAILMAKERS	4	686 - Others In Ship And Boat Building 865 - Rope, Twine, Cord – Makers 866 - Mat Makers 867 - Canvas, Sailcloth, Sacking, Net, &C. - Manuf. 874 - Carpet, Rug, Felt – Manufacture (& others)	211	This is the first of two 'catch-all' recodes for those in the textile industry that did not work with clothing. It was therefore only necessary to recode these due to the nature of the London-only analysis.
'SHEET MAKER AND TARPOLIAN'; 'SHEET MAKER'; 'VAN SHEET MAKER'; 'BEDDING MAKER'; 'TENT AND TARPAULIN MAKER'; 'TENT FITTER';	553 - SHEETING MANUFACTURE 564 586 589	490 - WATERPROOF GOODS MAKERS	4	796 - Waterproof Goods Makers	38	This is the second of two 'catch-all' recodes for those in the textile industry that did not work with clothing. It was therefore only necessary to recode these due to the nature of the London-only analysis.

'TENT MAKER'; 'OILSHIN DRESSER'	626 627					
'BOOT'S MAKER REPAIRER'; 'HAND SEWER BOOTHMAKER'; 'JOUNEYMAN BOOT ROPE MAKER'; 'COAT MAKER REPAIRER'; 'BOAT MAKER REPAIRER'; 'SOLE SEWER BOT'; 'HAND SEWER OF SHOES'; 'SHOEMAKER SOLE SEWER'; 'SHOE TRIMMING MANUFACTURER'	553 597 599 610 - SILK BLEACHERS	663 - SHOE AND BOOT MAKERS (AND REPAIRERS)	3	300 - Boot, Shoe-makers	14	Yes
'SEWER FLAPKEEPER'; 'SEWER MAN L B C'; 'FORMAN SEWER'; 'SEWER FLUSHER CITY WESTMINSTER'; 'TEMPORY SEWER MAN'; 'SEWER FLUSHIR'; 'SEWER MAN L C COUNCIL'; 'EXCAVATER SEWER WORK'; 'SEWER GANGER'; 'SEWER FLUSHER CITY OF WESTMINSTER COUNCIL'; 'LABOUR SEWER CONSTRUCTION'; 'PALTE LAYER SEWER'; 'SEWER MAN FLUSHER LONDON COUNTY COUNCIL'; 'SEWER AND FLUSHER'; 'DUST DESTRUCTOR HOPPER FEEDER';	554 - MUSLIN EMBROIDERER 568	727 - TOWN DRAINAGE	4	962 - Other Drainage And Sanitary Service	15	Yes
'SEWER CARPENTRS JOINER'; 'SKILLED LABOURER ENGAGED AT CARPENTRY'	554 583	409 - CARPENTER, JOINER	3	210 - Carpenters, Joiners	2	Yes
'LADIES TAILOR HAND SEWER';	554 571	653 - TAILORS (NOT MERCHANTS) - DEFAULT	3	270 - Tailors	62	Although these men could have remained in their

'TAYLOR SEWER'; 'LADIES COSTUMIER SEWER'; 'CLOTH LAYER ROYAL ARMY CLOTHING FACTORY'; 'PRESSER LADIES FACTORY'; 'MANCHINER'; 'LADIES MACHINIST MAKER'; 'TRIMMER'; 'LADIES DRESS TRIMMING MANUFACTURERS'; 'COSTUMER TRIMMER'; 'TRIMMER WOOLLEN'; 'LADIES DRESSER'; 'TAILER COSTUMES CLOTH'	572 588 589 597 614 626 627					original OCCCODEs, they equally fit into the Tailors OCCCODE, as evidenced by their Hollerith Occupation Code. They were therefore recoded due to the nature of the London-only analysis, yet it could be argued that this is a necessary recode in any context.
'OPERATIVE VOCALIST TENN'	555	76 – MUSICIAN, MUSIC MASTER, SINGER (NOT TEACHERS)	2	465 - Musicians, Music Masters, Singers	1	Yes
'PLAINER IN A SAWE MILL'; 'LAW MILL HAND LABOURER'	555 572	453 - SAWYER; WOOD CUTTING MACHINIST	4	761 - Sawyers; Wood Cutting Machinists	2	Yes
'WORKING IN RICE MILL'; 'MILL HAND RICE MILLS'; 'MILL HAND FLOAR MILLS'; 'MILL HAND PATENT MALT'; 'MILL HAND CATTLE FOOD MANUFACTURE'; 'MILL HAND LABOUR'; 'MILL HAND THORLEYS FOOD'; 'WHEAT MILL HAND'; 'MILL HAND MEAL MANUFACTURE'; 'MILL HAND LABOURER'; 'WHEAT TRIMMER'	555 572 597 608	686 - CORN MILLERS	4	923 - Millers; Cereal Food Manufacture	17	Yes
'TOBBACO OPERATIVE'	555	706 - TOBACCO MANUFACTURE	3	935 - Tobacco Manufacture	1	Yes
'OPERATIVE WORKMAN'; 'OPERATIVE DEPARTMENT';	555	300 - DIE, SEAL, COIN, MEDAL – MAKER	3	652 - Die, Seal, Coin, Medal – Makers	3	Yes

'OPERATIVE DEPT WORKMAN'						
'TERRA COTTON WORKER'	555	464 - BRICK, PLAIN TILE, TERRA-COTTA--MAKER	5	771 - Brick, Plain Tile, Terra-Cotta – Makers	1	Yes
'COTTON MANUFACTURER REPRESENTATIVE'; 'COMMERCIAL TRAVELER EASTERN SILK'; 'RIBBON TRAVELLER'; 'FANCY GOODS DEALER PEDLER'; 'FANCY GOODS AGENTS TRAVELLER'	555 574 577 599 622 627	118 – OFFICERS OF COMMERCIAL AND OTHERS COMPANIES	2	494 - Commercial Traveller	22	Yes
'FOREMAN CHAFF CUTTER'	556 - FUSTIAN MANUFACTURE	688 - HAY STRAW AND CHAFF CUTTERS	2	061 - Horsekeepers, Grooms, Stablemen (Not Dom.)	1	Yes. Note that there was no specific Hollerith Occupation Code for chaff cutters.
'FURRIER FOREMAN CUTTER'; 'WOOL RUG SIMSTER'; 'LAB FUR SKIN DYER'; 'FUR DYER WORKMAN'; 'SKIN DRESSER FURRIERS'; 'JERRIER'	556 557 622 626 627	505 - SKINNERS FURRIERS	4	801 - Furriers, Skinners	10	Yes
'POSTAL EMPLOYEE SORTER'; 'SORTER LDN P S SANO'; 'SORTER LONDON POSTAL SERVICES'; 'SORTER PARCEL'; 'LETTER SORTER LONDON'; 'MAIL BOY SORTER'; 'LETTER SORTER ABOVE BAR'; 'LETTER SORTER'; 'SORTER FOREIGN SECTION'; 'AUXILARY SORTER'; 'SORTER S W D O'; 'SORTER S W D C LONDON'; 'TRAVELLING SORTER'; 'CIVIL SERVICE SORTER'; 'SORTER – TRACER'	557 583	2 - OTHER POST OFFICE OFFICERS AND CLERKS	1	402 - Other Post Office Officers And Clerks	44	Yes

'WOOL CLEANING BY DRY PROCESS'; 'WOOL WASHER'; 'DYERS CLEANER' 'DYER PRESSER FINSTER'; 'DYER AND CLEANER'; 'DYERS WET AND DRY CLEANER AND FINISHER'; 'DYER FINISHER'; 'FANCY CLEANER'; 'CLOTH WORKER PRESSER'; 'PRESSER LINEN TRADE'	557 578 599 608 622 623 627	105 - LAUNDRY WORKER: WASHER, IRONER, MANGLER, ETC. (NOT DOMESTIC)	4	883 - Textile Dyers 884 - Textile - Calenderers, Finishers, &C. (& others)	100	Yes
'LODGE SORTER'	557	720 - HOTEL PORTERS BOOTS KNIFEMEN PLATEMEN PLATE CLEANERS POLISHERS (NON-RESIDENT)	4	408 - Poor Law Service	1	Yes. Note that this OCCODE was given to others with similar Occupational Strings.
'COMERNUT SORTER'; 'OLD ROPE SORTER'; 'JOBING HAND AT ANY WORK'; 'MACHINIST FUZE MAKER'; 'BANDSOWER'; 'ASBESTOS WORKER'; 'FINISHER OF PATENT STONE'	557 583 586 589 595 597 607 625 - COTTON & CALICO FINISHERS	765 – GENERAL LABOURER	5	330 - General Labourers 865 - Rope, Twine, Cord – Makers (& others)	16	Some of these men needed to be recoded, but the majority were recoded due to the nature of the London-only analysis.
'PENEER SORTER'; 'LAST MAKER'	557 592 - HOSIERY MANUFACTURE	461 – OTHER WORKERS IN WOOD	4	767 - Other Workers in Wood	9	Yes
'TEA LEAD SORTER'; 'TEA LEAD MILL HAND'	557 572	248 – LEAD MANUFACTURE	4	674 - Leaden Goods Makers	2	Yes
'NEWSAGENT'S SORTER'	557	547 – NEWSPAPER AGENTS	2	829 - Newspaper Agents, News Room Keepers	1	Yes
'WINNER BOTTLE SORTER'	557	716 – CELLARMEN	3	945 - Cellarmen	1	Yes
'HOTEL LAUNDRY SORTER'; 'WORKER UP'; 'SALLAD DRESSER'	557 617 626	721 – OTHER HOTEL SERVANTS	4	948 - Others In Inn, Hotel, Eating House – Service	3	Yes

'LEATHERDRESSER SHEEPSKIN SORTER'; 'FACTORY HAND LEATHER DRESSER'; 'SHEEP SKINRUG DRESSER'; 'SHEEP SKIN WOOL DRESSERS LABOURER'; 'MOROCCO HIDE DRESSER'; 'SKIN DRESSER FISH'; 'SKIN DRESSER ANNIMAL'; 'DRESSER SKIN DRESSING'	557 579 - SILK WORKERS - UNDEFINED 618 626	507 – CURRIERS	4	803 - Curriers	17	Yes
'TELEGAPHIST'	557	1 – POST OFFICE – TELEGRAPHISTS, TELEPHONE OPERATORS	1	401 - Post Office - Telegraphists, Telephone Operators	1	Yes
'SILVERSMITH'S SPINNER'; 'GOLD SILK CARTER'; 'MAKER'; 'TRIMMER JEWELLERY'; 'ORIES WEAVER'	560 574 597 606	385 – OTHER WORKERS GOLD SILVER JEWELLERY	4	711 - Goldsmiths, Silversmiths, Jewellers 712 - Lapidaries And Other Workers	5	Yes
'MERL SPINNER'; 'LAMP SHADE MACEN JACK'; 'LAMP SHADE MANUFACTURER'	560 599 625	317 – LAMP, LANTERN, CANDLESTICK-MAKER	4	669 - Lamp, Lantern, Candlestick – Makers	8	Yes
'WHIP SPINNER'	560	510 – SADDLE HARNESS AND WHIP MAKERS	3	805 - Saddlers; Harness, Whip-Makers	1	Yes
'PREESHAND'; 'MAGGIE DUPLEX TRIMMER'; 'ROTARY HAND'; 'PRESSMAN CAVIN MILL'; 'BLOCK PRINTER OF WALLPAPER'	560 608 614	537 – OTHERS IN PRINTING	3	824 - Printers (Others In Printing)	15	Yes
'JUI JUITSER WRESTLER'; 'TOP HAND'; 'DRESSMAID DRESSER'	564 592 617 626	80 – PERFORMERS SHOWMEN EXHIBITION SERVICE	2	469 - Performers, Showmen; Exhibtn., Games – Service	4	Yes
'LENS EDGER'; 'CLINICAL THERMONSTER DIVIDER'	564 578	372 – DEALERS IN ELECTRICAL APPARATUS	2	714 - Scientific Instrument Makers; Opticians	2	Yes. Note that this was the best match between Hollerith Occupation Code and OCCODE, and the OCCODE of others with

						similar Occupational Strings.
'CARTER OF BOOK CLOTH'; 'DYER AND CLEANERS CARMAN'; 'CLOTH WORKERS CARMAN'; 'MILLERS SACK COLLECTOR'	565 588 589 603 612 622 627	141 – CARMEN CARRIERS CARTERS AND DRAYMEN	5	070 - Carmen, Carriers, Carters, Wgnrs. (Not Farm)	9	Yes
'MANAGER WOOLLEN WAREHOUSE'; 'WOOLLEY BLANKET AGENT'; 'WOOL EXPERT'; 'WOOL SAMPLER'; 'CASHIER WOOLLEN HOUSE'; 'WOOLLEN CLOTH EXAMINER'	564 566 571 614	630 – WOOLSTAPLER WOOL DEALER BROKER	2	886 - Other Dealers In Textile Fabrics	7	Yes
'VENUS PREPARER'; 'VENEER PREPARER'; 'BACK MAKER'; 'FLY FINISHER IN PIANOFORTE WORKS'	568 607 625	393 – PIANO ORGAN MAKERS	3	721 - Piano, Organ – Makers	5	Yes
'BACEN DRYER STOVEMAN'; 'KNIPE DRESSER'; 'TIPE DRESSER'	568 626	678 – PROVISION CURERS	4	917 - Provision Curers	3	Yes
'BOXMINDER'; 'FANCY GOODS CASE MAKER'	568 599	456 – WOODEN BOX, PACKING CASE–MAKER	4	764 - Wooden Box, Packing Case – Makers	2	Yes
'CULTURE MEDIA PREPARER'	568	49 – SUBORDINATE MEDICAL SERVICE (UNQUALIFIED) AND MEDICAL SERVICES – GENERAL	2	438 - Subordinate Medical Service	1	Yes
'FEATHER MILL HAND LABOURER'	572	514 – QUILL AND FEATHERS DRESSERS	4	808 - Quill, Feather – Dressers	1	Yes
'MILL HAND CATTLE'; 'COTTON AND LINSEED'	572 625	484 – OIL MILLERS OIL CAKE MAKERS	5	791 - Oil - Millers, Refiners; Oil Cake Makers	2	Yes
'MILL HAND FOR PRINTING INK'	572	475 – INK AND BLACKING MANUFACTURE	4	780 - Dye, Paint, Ink, Blacking – Manufacture	1	Yes

'MUSTARD MILLHAND'; 'WORKER PEPPER MAKER'; 'TEE TOWNMEN'	572 613 - UNDEFINED TEXTILE BLEACHERS	700 – MUSTARD VINEGAR SPICE PICKLE MAKERS	2	933 - Mustard, Vinegar, Spice, Pickle, &C. – Makers	3	Yes
'MILL HAND SOAP'	572	487 – SOAP BOILERS AND MAKERS	5	793 - Soap - Boilers, Makers	1	Yes
'PUG MILL HAND'	572	741 – FLOORCLOTH AND OILCLOTH MANUFACTURE	4	983 - Floor Cloth, Oil Cloth – Manufacture	1	Yes
'ENGINEERS MILL HAND'	572	258 -MILLWRIGHT'	3	621 - Millwrights	1	Yes
'MILL HAND METAL WORK'	572	339 – OTHER METAL WORKERS	4	679 - Other Metal Workers	1	Yes
'BUILDERS MILL HAND'	572	407 – BUILDERS' LABOURER	5	732 - Builders' Labourers	1	Yes
'CARTRIDGE FACTORY OVERLOOKER'; 'OVERLOOKER CORDITE FACTORY'; 'FORMAN CANVAS HOSE PIPE WEAVER'; 'FORMAN CURTAIN FINISHER'; 'FOREMAN SILK MAKER'; 'MANAGER JUTE MILL'; 'SUPERINTENDENT OF WAREHOUSE FOR SACK AND BAG MANUFACTURERS'; 'MANAGER CARPET MANUFACTURER'; 'MANAGER FANCY GOODS TRADE'; 'MILL MANAGER'; 'OVERLOOKER EXPLOSIVE WORKER RL LABORATORY DEPT'; 'MANAGER LINEN'; 'DYERS MANAGER'	572 578 582 583 588 589 595 596 599 608 610 612 - FLAX LINEN BLEACHERS 622 625 626	761 – MANUFACTURERS, MANAGERS, SUPERINTENDENTS, FOREMEN (UNSPECIFIED)	4	994 - Contractors, Manufacturers, Mangers, Superintendents. (Undf.) (& others)	31	Yes
'GENTS SILK TIECUTTER'; 'SILK EMBROIDERRE MACHINEST'; 'SILK EMBROIDERY MFG'; 'EMBROIDERER';	574 578 579	659 – SHIRTMAKERS AND SEAMSTRESSES	2	280 - Dressmakers 290 - Shirt Makers; Seamstresses	65	These men were recoded due to the nature of the London-only analysis.

'SILK CUTTER'; 'LADIES SILK BELT MAKER'; 'SILK CRAVAT CUTTER'; 'SILK MANUFACTURER'; 'ART NEEDLEWORK TRACER'	599 602 - EMBROIDERERS 608 626			876 - Fancy Goods (Textile), &C. Manufacture		
'UPHOLSTERER SILK SPINNER'; 'SILK AND WORSTED SPINNER IN UPHOLSTERER TRIMMING MNUFACTURER'; 'UPHOLSTERS WEAVER SILK'; 'SILK CUTTER UPHOLSTEY'; 'UPHOLSTERERS TRIMMINGS'; 'SPINNER UPHOLSTERERS TRIMMING MAKING'; 'UPHOLSTERER'S TRIMMING WEAVER'; 'GOLD BLOCKER ON SILK ETC'; 'WEAVER FURNITURRE TRIMMINGS'; 'TASSEL MAKER'; 'FRINGE WEAVER'	574 560 597	440 – UPHOLSTERER	3	753 - Upholsterers	26	These men were recoded due to the nature of the London-only analysis, although it could be argued that this is a necessary recode in any context.
'SILK HAS SHAPER'; 'CIVILIANS HELMET MAKER WORKER'; 'FANCY ITALIAN BONNET MAKER'; 'FINISHER SILK HATS'	574 586 599 624	649 – HAT CAP (NOT CLOTH FELT STRAW) MANUFACTURE	4	894 - Makers Of Other Hats And Caps	5	These men were recoded due to the nature of the London-only analysis, although it could be argued that this is a necessary recode in any context.
'L C C LABOURER SWEEPER'; 'LABOURER BARROWMAN AT DUST DISTRTUCTION'	620	728 – SCAVENGING, STREET CLEANERS, CROSSING SWEEPERS, DUSTMEN	5	963 - Local Authy. Scavenging And Disposal Of Refuse	2	Yes
'LABOURER L C C TRAMMINGS'; 'LABOURER L C C TRAMS'	620	154 – TRAMWAY SERVICE -- -OTHERS	3	533 - Local Authority Tramway Service	2	Yes
'LABOURER LONDON ;C C'; 'L C C PERMANENT LABOURER WAY'	620	764 – CORPORATION BOROUGH COUNCIL LABOURERS (UNDEFINED)	5	748 - Paviours; road labourers (under local authorities)	7	Yes

				(& others)		
'OSTRICH FEATHER CLEANER AND DYER'; 'ASSISTANT FEATHER DYER'; 'OSTRETCH FEATHER DYER'	622	514 – QUILL AND FEATHERS DRESSERS	4	808 - Quill, Feather – Dressers	21	Yes
'BAGGER'; 'P D AT PREFERENCE DUCK LABOURER'; 'DUST BARGE TRIMMER'	578 583	166 - STEVEDORES, WHARF AND DOCK LABOURERS	5	080 - Dock Labourers, Wharf Labourers	4	Yes
'CHINNY KEMP'	581 - HEMP MANUFACTURE (VARIOUS)	743 - CHIMNEY SWEEPS	3	985 - Chimney Sweeps	1	Yes
'CLERK AT FURNITURE MANUFACTURING FACTORY'; 'CLERK FANCY LEATHER GOODS TRADE'	583 599	119 - COMMERCIAL OR BUSINESS CLERKS	1	050 - Typing, &C. Business (Commercial Or Business Clerks)	4	Yes
'STOKER AT CANDLE FACTORY'; 'OR FOOT DRESSER'	583 626	486 - TALLOW CHANDLERS CANDLE AND GREASE MANUFACTURE	5	792 - Candle, Grease, Manufacture	2	Yes
'SKILLED LABOURER GUN FACTORY RL ARSENAL'	583	301 - GUNSMITHS	3	629 - Other Or Undef. Wkrs. In Engine And Machine Mkg. (Others)	6	Yes
'BARKER'; 'ASSISTANT IN BISCUIT MAKER'	586	690 - BISCUIT CAKE BREAK MAKERS	2	925 - Bread, Biscuit, Cake, &C. – Makers	2	Yes
'BARKER'; 'POODLE CLIPPER'; 'MOHAIR BRAID MAKER'; 'FRINGE AND GIMP WEAVER'; 'GENT'S HEIR DRESSER'; 'HAIRR DRESSER ASSISTANTS'	586 593 597 626	668 - HAIRDRESSERS	3	906 - Wig Makers; Hairdressers	8	Yes
'KABINET MAKER WORKER'; 'FANCY CABINET MANUFACTURER'; 'FANCY TABLES MAKER'	586 599	438 - FURNITURE AND FITTINGS - OTHERS	3	751 - Cabinet Makers	8	Yes
'SHEDMAN OR SOLE'	586	506 - TANNERS FELLMONGERS	4	802 - Tanners	1	Yes

'CHI BET'	586	72 – ARCHITECTS	1	462 - Architects	1	Yes
'VAT MAKER WORKER'	586	457 – COOPER; HOOP— MAKER, BENDER	4	765 - Coopers; Hoop- Makers, Benders	1	Yes
'MECANICIEN MOTORS;	587	86 - DOMESTIC--MOTOR CAR DRIVER, MOTOR CAR ATTENDANT	3	477 - Domestic - Motor Car Drivers, Motor Car Attendants	1	Yes
'BAG DEALER'	588	525 - PAPER BAG MAKERS	3	819 - Other Dealers in Paper	1	Yes
'HOSIERY MANUFACTURERS'; 'HOSIERY MANAGER'; 'HABERDASHER AND FANCY GOODS TRARD'; 'HABBER DASHERY FANCY GOODS'; 'HOSIERS WINDOW DRESSER'	592 599 626	662 - HOSIERS HABERDASHERS	2	871 - Hosiery Manufacture 901 - Hosiers, Haberdashers	8	Yes
'STICKER'	592	262 - BLACKSMITHS	3	190 - Blacksmiths, Strikers	2	Yes
'ORDERMAN'; 'LADIES FANCY GOODS'	592 614	655 -CLOTHIERS & OUTFITTERS (IE DEALERS AND MERCHANTS)	2	886 - Other Dealers In Textile Fabrics 897 - Clothiers, Outfitters – Dealers	7	Yes
'LINKER OUT OF WORK'	592	246 - TINPLATE MANUFACTURE	4	672 - Tinplate Goods Makers	1	Yes
'HOSE MAKER'; 'LEGGING MAKER'; 'FANCY LEATHER-GOODS MAKER'; 'BRACE MAKER'; 'FANCY LEATHER GOOD MANUFACTURER'; 'FANCY LEATER MAKER'; 'WORKER IN FANCY LEATHER GOODS'; 'LEATHER DRESSER AND FINISHER'; 'FIRE HOSE WEAVER'	592 608 622 626 627	508 - LEATHER GOODS MANUFACTURE (BELTS ETC)	3	804 - Leather Goods, Portmanteau, Bag, Strap, &C. Makers (& others)	53	Yes
'CORE MAKER OUT OF WORK'	592	259 - IRONFOUNDER -- MOULDERS, CORE MAKERS, FETTER, CUPOLA, OVERN-MAN,	3	180 - Ironfounders - A. Moulders, Core Makers	1	Yes

		FOUNDRIY LABOURER, OTHER & UNDEFINED				
'STOKING'; 'STOKING TEMPARY'; 'STOKEHOLD TRIMMER'	592	766 - ENGINE DRIVERS, STOKERS, FIREMEN (NOT RAILWAY, MARINE, OR AGRICULTURAL)	4	340 - Engine - Drivers, Stokers, Firemen (Not Railway, Marine, Or Agricultural)	3	Yes
'STOREKEEPER FELT ROOFING'; 'STOCK-KEEPER FANCY CATHER GOODS MANUFACTURER'; 'STOREKEEPERS ASSISTANT' ATHLETIC GOODS MANNY IS'; 'FANCY GOODS DEALER'	595 599 626 627	758 - GENERAL SHOPKEEPERS DEALERS	2	991 - Genrl. Or Unclassified Shopkeepers; Genrl. Dealers	37	Yes
'HORSEBOX TRIMMER'	597 - TRIMMING MAKERS	365 - COACH, CARRIAGE-- MAKER	3	691 - Railway - Coach, Wagon Makers (Railway Company Workers)	1	Yes
'ELETCRET TREN CAMP TRIMMER'	597	287 - ELECTRICIANS (UNDEFINED)	3	956 - Local Authority Electricity Supply - A. Generation And Distribution	1	Yes. Note that this OCCODE was given to others with similar Occupational Strings.
'BRASSFOUNDER TRIMMER'; 'BRONZE TRIMMER'; 'TRIMMER CASTING'; 'BRONZE MILL LABOURE'	597 626	260 - BRASS FOUNDERS	3	622 - Brassfounders	8	Yes
'PERAMULATOR TRIMMER'	597	368 – PERAMBULATOR MAKER	3	699 - Others In Construction Of Vehicles	1	Yes. Note that this was the best match between Hollerith Occupation Code and OCCODE, and the OCCODE of others with similar Occupational Strings.
'TRIMMER BURNING'	597	279 – DOMESTIC MACHINERY MAKERS	4	996 - Artizans, Mechanics, Apprentices (Undefined)	1	Yes. Note that this was the best match between Hollerith Occupation Code and OCCODE, and the OCCODE of others with similar Occupational Strings.
'COOL TRIMMER'; 'CASALTY LABERER'	597 622	170 - COALHEAVER; COAL- -PORTER, LABOURER	5	557 - Coalheavers; Coal - Porters, Labourers	2	Yes
'LAMPMAN TRIMMER'	597	134 - OTHER RAILWAY SERVANTS	2	519 - Other Railway Servants	1	Yes

'SHELL TRIMMER'; 'WITH FANCY AND OLD FANCY STEEL MAKER'	597 599	244 - STEEL-- MANUFACTURE, SMELTING, FOUNGING	4	604 - Steel - Manufacture, Smelting, Founding	2	Yes
'COLANEMAN'; 'FANCY OLMAN'; 'CHILMAN'	597	498 – OIL AND COLOURMEN	3	798 - Oil and Colourmen	3	Yes
'TAPPER'; 'TUNE KEEPER'	597	435 – PAVIORS	5	749 - Paviours; Road Labourers (Others)	2	Yes
'MANUFACTURER OF MOTOR GOODS –'; 'WHEELWRIGHT AT PRESENT TIME MOUNTER AND FINISHER IN MOTOR FIRM'	599 625	363 - MOTOR CAR CHASSIS MAKER: MOTOR CAR MECHANIC	3	695 - Motor Car Chassis Makers	2	Yes
'TILER FANCY'; 'WORKER AT THE MORGAN CRUCIBLE CO BATTERSEA'; 'CRUCIBLE FINISHER AT MORGANS'	599 617 625	467 - EARTHENWARE, CHINA, PORCELAIN-- MANUFACTURE	4	773 - Earthenware, China, Porcelain – Manufacture	3	Yes
'IMPORTER OF GLASS AND FANCY GOODS'	599	473 - EARTHENWARE, CHINA, GLASS--DEALER	3	778 - Earthenware, China, Glass – Dealers	1	Yes
'IMPORTER OF HARDWARE AND FOREIGN FANCY GOODS'	599	369 - IRONMONGER; HARDWARE--DEALER, MERCHANT	2	701 - Ironmongers; Hardware - Dealers, Merchants	1	Yes
'FANCY DRAPH'; 'DRAPER LINEN MARKET'; 'DRAPERY BUYER LINEN'; 'DRAPERY WINDOW - DRESSER DRAYER'	599 612 626	628 - DRAPERS LINEN DRAPERS MERCERS	2	260 - Drapers, Linen Drapers, Mercers	6	Yes
'FANCY CAGE MAKER'	599	313 - WIRE MAKERS WORKERS WEAVERS	4	666 - Wire - Drawers, Makers, Workers, Weavers	1	Yes
'POWER MAKERS ASSTN'	606	759 - PAWNBROKERS	2	992 - Pawnbrokers	1	Yes
'SCOURER'; 'MACHINIST-METAL'	607 625	268 – COPPERSMITHS (VARIOUS)	3	624 - Coppersmiths	2	Yes
'SPOUTMAN GRIST MILL'	608	710 - DISTILLERS AND RECTIFIERS	4	939 - Distillers; Spirit Manufacture	1	Yes
'HILLMAN'; 'CHEMISTS WINDOW DRESSER'	608 626	482 - CHEMISTS DRUGGISTS	1	787 - Manufacturing chemist	2	Yes. Note that this was the OCCODE of others with

						similar Occupational Strings.
'RIVEIT' CARRIE'	611 – COTTON & CALICO BLEACHERS	345 - SHIP BOAT PLATERS RIVETTERS	3	681 - Ship - Platers, Rivetters, &C.	1	Yes
'ASSIANT' FRUITERESS'	612	698 - GREENGROCERS FRUITERERS POTATO DEALERS	2	931 - Greengrocers, Fruiterers	1	Yes
'BLEACHER OFSHELLAC CALLED WHITE LAC'; 'SHELLACK BLEACHER'; 'SHELLAE BLEACHER'; 'SAUGAGE SKIN DRESSER'	612 626	494 - RESIN MANUFACTURE	5	797 - Glue, Size, Varnish, &C. – Makers	4	Yes
'STICH DRESSE'; 'W STICK DRESSER'; 'STICH DRESSER'; 'STICK DRESSER FINISHER'	613 626 627	669 - UMBRELLA PARASOL AND STICK MAKERS	3	907 - Umbrella, Parasol, Stick-Makers	4	Yes
'CANAGE FELTER'	623	263 - FITTERS, TURNERS (ENGINE AND MACHINE)	3	200 - Erectors, Fitters, Turners	1	Yes
'ACCOUNT BOOKBINDER OF FINISHER'; 'CLOTH BOOKBINDER'	625 627	542 - BOOKBINDERS	3	826 - Bookbinders	2	Yes
'CLOTH BUTTONMAKER'	627	660 – BUTTON MAKERS	4	899 - Button Makers	1	Yes
'UNEMPLOYED LATE OMNIBUS DRESSER'	626	148 - OMNIBUS HORSE DRIVERS (DEFAULT)	3	527 - Omnibus Service (Horse Drivers)	1	Yes
'TOBACCONIST'S WINDOW DRESSER'	626	707 - TOBACCONISTS	2	936 - Tobacconists	3	Yes
'BRITILE DRESSER'	626	512 - BRUSH AND BROOM MAKERS	5	807 - Brush, Broom - Makers; Hair, Bristle – Workers	1	Yes
'STAME DRESSER'	626	226 – STONE CUTTERS DRESSERS	4	592 - Stone - Cutters, Dressers	1	Yes
'DRESSER IN THEATRE'	626	79 -ART, MUSIC, THEATRE, CINEMA – SERVICE ETC	2	467 - Art, Music, Theatre - Service, &C.	1	Yes
'CAPMAKER CLOTH'	627	648 – CLOTH HAT CAP MANUFACTURE	4	893 -Makers Of Cloth Hats And Caps	1	Yes